

# **H-60 Fleet (version 2.3)**

Date: 2015-04-08

USAACE - Aviation School

This page intentionally left blank

## Table Of Contents

### 1.0 System Description

### 2.0 Target Audience

### 3.0 Assumptions

### 4.0 Training Constraints

### 5.0 System Training Concept

#### 5.1 New Equipment Training Concept (NET)

#### 5.2 Displaced Equipment Training (DET)

#### 5.3 Doctrine and Tactics Training (DTT)

#### 5.4 Training Test Support Package (TTSP)

### 6.0 Institutional Training Domain

#### 6.1 Institutional Training Concept and Strategy

##### 6.1.1 Product Lines

##### 6.1.1.1 Training Information Infrastructure

###### 6.1.1.1.1 Hardware, Software, and Communications

###### Systems

###### 6.1.1.1.2 Storage, Retrieval, and Delivery

###### 6.1.1.1.3 Management Capabilities

###### 6.1.1.1.4 Other Enabling Capabilities

##### 6.1.1.2 Training Products

###### 6.1.1.2.1 Courseware

###### 6.1.1.2.2 Courses

###### 6.1.1.2.3 Training Publications

###### 6.1.1.2.4 Training Support Package (TSP)

##### 6.1.1.3 TADSS

###### 6.1.1.3.1 Training Aids

###### 6.1.1.3.2 Training Devices

###### 6.1.1.3.3 Simulators

###### 6.1.1.3.4 Simulations

###### 6.1.1.3.5 Instrumentation

##### 6.1.1.4 Training Facilities and Land

###### 6.1.1.4.1 Ranges

###### 6.1.1.4.2 Maneuver Training Areas (MTA)

###### 6.1.1.4.3 Classrooms

###### 6.1.1.4.4 CTCs

###### 6.1.1.4.5 Logistics Support Areas

###### 6.1.1.4.6 Mission Training Complex (MTC)

##### 6.1.1.5 Training Services

###### 6.1.1.5.1 Management Support Services

###### 6.1.1.5.2 Acquisition Support Services

###### 6.1.1.5.3 General Support Services

## 6.1.2 Architectures and Standards Component

### 6.1.2.1 Operational View (OV)

### 6.1.2.2 Systems View (SV)

### 6.1.2.3 Technical View (TV)

## 6.1.3 Management, Evaluation, and Resource (MER) Processes

### Component

### 6.1.3.1 Management

#### 6.1.3.1.1 Strategic Planning

#### 6.1.3.1.2 Concept Development and Experimentation

### (CD&E)

#### 6.1.3.1.3 Research and Studies

#### 6.1.3.1.4 Policy and Guidance

#### 6.1.3.1.5 Requirements Generation

#### 6.1.3.1.6 Synchronization

#### 6.1.3.1.7 Joint Training Support

### 6.1.3.2 Evaluation

#### 6.1.3.2.1 Quality Assurance (QA)

#### 6.1.3.2.2 Assessments

#### 6.1.3.2.3 Customer Feedback

#### 6.1.3.2.4 Lessons Learned/After-Action Reviews (AARs)

### 6.1.3.3 Resource

## 7.0 Operational Training Domain

### 7.1 Operational Training Concept and Strategy

#### 7.1.1 Product Lines

#### 7.1.1.1 Training Information Infrastructure

##### 7.1.1.1.1 Hardware, Software, and Communications

### Systems

##### 7.1.1.1.2 Storage, Retrieval, and Delivery

##### 7.1.1.1.3 Management Capabilities

##### 7.1.1.1.4 Other Enabling Capabilities

#### 7.1.1.2 Training Products

##### 7.1.1.2.1 Courseware

##### 7.1.1.2.2 Courses

##### 7.1.1.2.3 Training Publications

##### 7.1.1.2.4 TSP

#### 7.1.1.3 TADSS

##### 7.1.1.3.1 Training Aids

##### 7.1.1.3.2 Training Devices

##### 7.1.1.3.3 Simulators

##### 7.1.1.3.4 Simulations

##### 7.1.1.3.5 Instrumentation

#### 7.1.1.4 Training Facilities and Land

##### 7.1.1.4.1 Ranges

- 7.1.1.4.2 Maneuver Training Areas (MTA)
      - 7.1.1.4.3 Classrooms
      - 7.1.1.4.4 CTCs
      - 7.1.1.4.5 Logistics Support Areas
      - 7.1.1.4.6 Mission Command Training Centers (MCTC)
    - 7.1.1.5 Training Services
      - 7.1.1.5.1 Management Support Services
      - 7.1.1.5.2 Acquisition Support Services
      - 7.1.1.5.3 General Support Services
  - 7.1.2 Architectures and Standards Component
    - 7.1.2.1 Operational View (OV)
    - 7.1.2.2 Systems View (SV)
    - 7.1.2.3 Technical View (TV)
  - 7.1.3 Management, Evaluation, and Resource (MER) Processes
    - 7.1.3.1 Management
      - 7.1.3.1.1 Strategic Planning
      - 7.1.3.1.2 Concept Development and Experimentation
      - 7.1.3.1.3 Research and Studies
      - 7.1.3.1.4 Policy and Guidance
      - 7.1.3.1.5 Requirements Generation
      - 7.1.3.1.6 Synchronization
      - 7.1.3.1.7 Joint Training Support
    - 7.1.3.2 Evaluation
      - 7.1.3.2.1 Quality Assurance (QA)
      - 7.1.3.2.2 Assessments
      - 7.1.3.2.3 Customer Feedback
      - 7.1.3.2.4 Lessons Learned/After-Action Reviews (AARs)
    - 7.1.3.3 Resource Processes
- 8.0 Self-Development Training Domain
  - 8.1 Self-Development Training Concept and Strategy
    - 8.1.1 Product Lines
      - 8.1.1.1 Training Information Infrastructure
        - 8.1.1.1.1 Hardware, Software, and Communications
        - 8.1.1.1.2 Storage, Retrieval, and Delivery
        - 8.1.1.1.3 Management Capabilities
        - 8.1.1.1.4 Other Enabling Capabilities
      - 8.1.1.2 Training Products
        - 8.1.1.2.1 Courseware
        - 8.1.1.2.2 Courses
        - 8.1.1.2.3 Training Publications

- 8.1.1.2.4 Training Support Package (TSP)
- 8.1.1.3 Training Aids, Devices, Simulators and Simulations (TADSS)
  - 8.1.1.3.1 Training Aids
  - 8.1.1.3.2 Training Devices
  - 8.1.1.3.3 Simulators
  - 8.1.1.3.4 Simulations
  - 8.1.1.3.5 Instrumentation
- 8.1.1.4 Training Facilities and Land
  - 8.1.1.4.1 Ranges
  - 8.1.1.4.2 Maneuver Training Areas (MTA)
  - 8.1.1.4.3 Classrooms
  - 8.1.1.4.4 CTCs
  - 8.1.1.4.5 Logistics Support Areas
  - 8.1.1.4.6 Mission Command Training Centers (MCTC)
- 8.1.1.5 Training Services
  - 8.1.1.5.1 Management Support Services
  - 8.1.1.5.2 Acquisition Support Services
  - 8.1.1.5.3 General Support Services
- 8.1.2 Architectures and Standards Component
  - 8.1.2.1 Operational View (OV)
  - 8.1.2.2 Systems View (SV)
  - 8.1.2.3 Technical View (TV)
- 8.1.3 Management, Evaluation, and Resource (MER) Processes Component
  - 8.1.3.1 Management
    - 8.1.3.1.1 Strategic Planning
    - 8.1.3.1.2 Concept Development and Experimentation (CD&E)
    - 8.1.3.1.3 Research and Studies
    - 8.1.3.1.4 Policy and Guidance
    - 8.1.3.1.5 Requirements Generation
    - 8.1.3.1.6 Synchronization
    - 8.1.3.1.7 Joint Training Support
  - 8.1.3.2 Evaluation
    - 8.1.3.2.1 Quality Assurance (QA)
    - 8.1.3.2.2 Assessments
    - 8.1.3.2.3 Customer Feedback
    - 8.1.3.2.4 Lessons Learned/After-Action Reviews (AARs)
  - 8.1.3.3 Resource Processes
- A Milestone Annex
- B References
- C Coordination Annex

This System Training Plan (STRAP) is preliminary.  
Front end analysis (mission, task, job) is ongoing. USAACE - Aviation School will amend and update this STRAP as details solidify.

USAACE - Aviation School is the proponent for this STRAP.  
Send comments and recommendations directly to: Robert A Story

Comm: 334-255-9655

DSN: 558-9655

Email:

Mailing address:

United States Army Aviation Warfighter Center  
Bldg #4507, Rm 204  
Ft. Rucker, AL 36362

## 1.0 System Description

a. The modernization program of the UH-60V will enhance the commanders' ability to conduct non-linear, simultaneous, fully integrated operations in order to decisively mass the effects of the Divisions war fighting assets. As a critical system of systems, the UH-60V will provide digital connectivity for enhanced situational awareness and improved lift, range, deployability, and survivability to further increase the commanders ability to conduct operations across the entire spectrum of the battlespace. In addition to a 25-year airframe service life extension requirement, the UH-60V program must employ technologies to increase pilot efficiency, increase mission safety and effectiveness, provide a digital communications architecture, enhance survivability, improve Reliability, Availability, and Maintainability (RAM), reduce Operational and Support (O&S) costs, and allow for future system growth. The modernized UH-60V crew station design must be compatible with future Aviation Life Support Equipment (ALSE) specifications. It is the intent that the UH-60V Black Hawk will capitalize on the current system design and all technological advances that are appropriate and compatible in terms of performance, cost, and risk. The requirements contained within the ORD will be achieved by a two-tiered development and production approach resulting in a fleet with mixed performance capability. The first tier will provide life extension, digitization, and other enhancements to make the UH-60 relevant and effective on the modern battlefield. The second tier will focus primarily on performance related capabilities needed to support the Army Vision that can not be achieved today within acceptable cost, schedule and risk constraints. The achievement of tier 2 performance levels will rely on the development and qualification of technology that is currently not available. Tier 1 aircraft may commonly be referred to as the UH-60V. Tier 2 aircraft may commonly be referred to as the UH-60(X) until formal designation is received.

b. The UH-60V is designed to modify the existing UH-60L analog architecture to a digital infrastructure enabling the modified aircraft to have similar Pilot-Vehicle Interface (PVI) to the UH-60M. The programs will address current capability gaps and meet operational requirements by employing an evolutionary acquisition approach to leverage mature technologies that have been successfully integrated on other military aircraft. The program will reduce obsolescence and increase commonality and interoperability by installing a digital cockpit, bussing and upgrading the communication/identification suite, improving navigation guidance, and integrating Aircraft Survivability Equipment (ASE), digital moving map, and Joint Variable Message Format (JVMF) messaging.

c. This System Training Plan (STRAP) provides an initial institutional training plan specific to the implementation of tier one/phase one training programs. Tier two/phase two training development and implementation requirements are not as



sufficiently defined for inclusion to this version of the STRAP. Future updates will include tier two/phase two information.

## 2.0 Target Audience

TARGET AUDIENCE		
Category	Job	Area of Concentration (AOC)  Military Occupational Specialty (MOS)
Operator		
	Active Army Commissioned Officer	AOC 15A
	Reserve Commissioned Officer	AOC 15A
	Warrant Officer	MOS 153D
	Instructor Pilot	SQI C
	Maintenance Test Pilot	SQI G
Subject Matter Expert (SME)		
	Aviation Maintenance Technician	151A
Supply		

<b>Repairer</b>		
	Turbine Engine Repairman	15B
	Powertrain Repairman	15D
	Aircraft Electrician	15F
	Aircraft Structural Repairer	15G
	Aircraft Pneudraulics Repairer	15H
	Aircraft Components Repairer	15K
	Avionics Repairer	15N
	Helicopter Repairer	15T
	Aircraft Maintenance Senior Sergeant	15Z
<b>Trainer</b>		

Additional Information/Requirements:

### 3.0 Assumptions

a. The Training Support Package (TSP), for each tier/phase, will be developed concurrently with the system hardware and software, validated during Initial Operational Test and Evaluation (IOT&E), approved by the proponent, and delivered to the proponent seven (7) months prior to training start date for the First Unit Equipped (FUE).

b. The modernized UH-60V will be compatible with then current Tactical Engagement Simulation (TES) Training Aids, Devices, Simulations, and Simulators (TADSS) to support the conduct of live Force-on-Force (FOF) training exercises at home station, local training areas, Combat Training Centers (CTC) and other deployed sites.

c. Flight Crew authorizations (4 people) will be the same as those for current UH-60A/L (2 Aviators and 2 crewmember).

d. Maintainer skill level requirements will be the same as those for the UH-60M.

e. The UH-60V Integrated Training Program (ITP) will encompass Operator, Maintainer and Support (OMS) training requirements.

f. The UH-60V cockpit will incorporate digital battlefield capability. All nav/com avionics and selected flight instruments will be replaced with Multifunctional Display (MFD).

g. Institutional/Resident training may require an increase in flight and academic instructors because UH-60A/L training continues for some years.

h. Selected upgrades/replacement to existing UH-60A/L simulators and training devices will be required.

i. TADSS, Interactive Multimedia Instruction (IMI), Computer Based Training (CBT), Virtual Interactive Environment (VIE), and Computer Aided Instruction (CAI) will be integrated into institutional and non-institutional training to the fullest extent possible.

j. The Materiel Developer (MD) will provide a multimedia TSP for each OMS personnel course referenced in this STRAP.

k. MD will provide Initial and Key Personnel Trained (IKPT) at a site TBD. The MD will provide the proponent with the TSP to include devices, when IKPT is completed.

l. In-flight training hours for the Aviator Qualification Course (AQC) shall not exceed current UH-60A/L course requirements.

m. There will be no additional NCO skill identifiers created as a result of the fielding of the fully modernized UH-60V. Officer/ Warrant Officer ASI/SQI may be created but will have no impact on manpower increase.

n. The TADSS developed for the EMD phase must be available and ready for training during institutional (USAAVNC and 128th Aviation Brigade) NET IKPT - Train the Trainer - phase. TADSS used for IKPT NET will remain at the institution and be counted against that schools Basis of Issue (BOI).

o. The proponent school approved critical individual task list will be used to develop all resident and/or non-resident exportable training materials.

#### **4.0 Training Constraints**

Manpower/Force Structure. The modernized UH-60V shall be supportable and maintainable within the current aviation force structure and will not require an increase in crew size, maintenance manpower, or personnel requirements.

Personnel Assessment. Maintenance and support personnel training for the UH-60V will not require any new MOS's.

Training Equipment. Continued use of existing training material, devices, and simulators will have to be used and maintained while replacements that support the UH-60V are developed, and fielded.

Facilities. Space in the maintenance training facility is not sufficient to support the initial increase in training while supporting the existing student throughputs. Recommendation: Implementation of a temporary facility may be necessary to balance student loads for all UH-60 platforms.

Manpower/Force Structure. Fielding of this system must not add additional manpower to the force structure numbers.

Human Factors. No known constraints.

System Safety. No known constraints.

Health Hazard. When equipped with Tactical Engagement Simulation systems (TESS), The UH-60V will have an eye-safe, training, and tactical (tri-mode) laser with full ranging capability for all weapon system emitters.

Soldier Survivability. No known constraints.

Personnel resources for the UH-60V training must come from Active Army and Reserve Component resources. The training equipment, components, and devices must be provided in sufficient quantities and within the appropriate time frame to support operational testing and fielding.

The operation and maintenance of training devices must not require aptitude, education, or training that exceeds the target audience capabilities.

## 5.0 System Training Concept

The basic flight characteristics of the UH-60V will remain essentially unchanged when compared to the UH-60A/L or the UH-60M aircraft. It is envisioned that UH-60V pilot training can take place in either the UH-60V or the UH-60M airframe utilizing the UH-60M Aviator Qualification/IP (Trans) course and is at the discretion of the United States Army Aviation Center of Excellence (USAACE). A fundamental precept for implementation is to train qualified UH-60V personnel while minimizing the impact on readiness of the force. It is envisioned that aviators who are not qualified in the UH-60 must first attend a UH-60 qualification course offered by USAACE with the follow on UH-60M Aviator Qualification/IP (Trans) course. If aviators are previously qualified in the UH-60A/L they need to attend UH-60V aircraft qualification transition training utilizing the UH-60M Aviator Qual/IP (Trans) course taught by USAACE or by New Equipment Training Teams (NETT). It is envisioned that qualified UH-60A/L Instructor Pilots (IP) need to attend the UH-60M Aviator Qual/IP (Trans) course taught by USAACE or by NETT. It is also envisioned that qualified UH-60A/L Maintenance Test Pilots (MTP) need to attend the UH-60M Maintenance Test Pilot (Trans) course taught by USAACE or by NETT.

Maintenance training will be designed to provide the differences from the current A/L/M fleet to the UH-60V for each MOS affected by the changes to the aircraft systems. Once the differences training is developed and proven the MD will either provide a TSP that trains each MOS affected with a total training solution so when the Soldiers receive the maintenance training they will be able to perform the maintenance on any of the fielded UH-60 Models (M/V). Sustainment training shall be designed and developed IAW the appropriate regulations to support sustainment and continuation training for UH-60A/L qualified aircrew personnel worldwide.



## 5.1 New Equipment Training Concept (NET)

IAW AR 350-1, when NET is required for new and improved equipment, the MD designates a NET Manager who plans and conducts NET. NET will be coordinated between the MD, Training Developer(TNGDEV) and the Combat Developer (CBTDEV).

The MD will coordinate with the Training developer(TNGDEV) to ensure a complete Multimedia (Shareable Content Object Model-- SCORM 2004 compliant) TSP is developed in coordination with the combat/training developers to support all Operator, Maintainer, and Support (OMS) personnel training for the UH-60V. The NET TSP should be developed concurrently with the system. The MD and the proponent will ensure the TSP remains current throughout the UH-60V program life cycle and that any revisions are provided to the Army Training Support center (ATSC), Army Training Network (ATN), and any other distribution sources as they are identified.

The training products and procedures will be developed IAW the Training Requirements Analysis System (TRAS) process, the latest TRADOC Regulation 350-70, TRADOC PAMs 350-70-1 thru 12, applying the Army Learning Model methods from TRADOC Pam 525-8-2 w/C1 06Jun2011, and DA PAM 73-1. The training products and processes will be documented and delivered in TRADOC's latest Training Development Capability (TDC) workload management database that supersedes the current TD automation system.

The TSP will support the training strategy detailed in this STRAP and be submitted to the Central Army Registry (CAR) for Army-wide digital distribution.

The MD will provide the materials,TADSS(defined by the TNGDEV) and instructors to conduct NET. The NET will be provided to government Instructor and Key Personnel during IKPT at USAACE/128th AVN BDE, or to unit trainers to cover new fielded capabilities UH-60V. IKPT is the technical training provided by NET personnel to support the initial transfer of knowledge on the operation and maintenance of the UH-60V and is a means of establishing a training capability within proponent schools. Subsequent NET resulting from procedural or equipment changes will be added to the existing UH-60V courses and will be provided at the institution or through DL media. NET will continue until as yet to be determined number of Army units are trained and fielded. Production capacity and fielding issues may necessitate a re-look at the NET implementation strategy.

The TSP will be used to "train the institutional trainer" and will be the foundation for institutional and UST. The TSP will include task list, lesson plans, technical manuals (ETM/IETM), student handouts, instructor guides, test and answer sheets, IMI, a course management plan, and student guides on the operation and maintenance of the UH-60V. The TSP will include new, upgraded, or modified operator and maintainer TADSS as identified by the training analysis.

Job aids will be submitted to ATSC Graphic Training Aids (GTA) program for digital ATN load and life cycle maintenance. DTT training will be developed and similarly conducted by proponent subject matter experts. The TSP used for institutional IKPT or the exportable multimedia TSP used for unit IKPT will be complete with, lesson plans, TM's, student handouts, instructor guides, test and answer sheets, IMI, and a course management plan. The TSP will include a tutorial "how to" module that permits audiences to be self-taught. The TSP will include a diagnostic test that permits identification of soldier training proficiency by module.

Support personnel training may be impacted by the UH-60V as well; however, for those tasks of low complexity, training may be accomplished using training developer developed job aids (i.e., placard, single page or card with operating or procedural instructions, etc.). If task complexity is such that a job aid is insufficient, additional course materials will be included in the system TSP.

New Equipment Training Team (NETT). A NETT will be provided by the MD to conduct all NET requirements.

## **5.2 Displaced Equipment Training (DET)**

The UH-60L upgrade does not displace any existing equipment.

### **5.3 Doctrine and Tactics Training (DTT)**

No DTT requirements identified from this upgrade.

#### 5.4 Training Test Support Package (TTSP)

The Training Test Support Package (TTSP) which will meet or exceed the requirements outlined in TRADOC Reg 350-70 prior to each phase of user testing (UT).

b. The TTSP will contain the following materials:

- (1) Approved System Training Plan (STRAP).
- (2) Test Training Certification Plan.
- (3) Training Schedule.
- (4) Program of Instruction (POI).
- (5) Lesson Plans.
- (6) Trainer data requirements.
- (7) Soldier training publications and changes.
- (8) CATS (Combined Arms Training Strategies).
- (9) Training aids, devices/simulators, and embedded training components.
- (10) Target audience description.
- (11) Critical Task Lists.
- (12) Crew Drills.

## **6.0 Institutional Training Domain**

It is intended that institutional aviator, Instructor Pilot, Maintenance Test Pilot, and maintainer training take place at USAACE which includes Fort Rucker, FT Eustis, Army ARNG Training Sites, and the NETT. Institutional training will focus on individual qualification training through demonstration of proficiency in critical task for the aviator, IP, MTP, and maintainers.

## **6.1 Institutional Training Concept and Strategy**

Compo 1, 2, and 3 personnel will train utilizing the following institutional training concept and strategy. The training concept and strategy for the UH-60V is to develop an individual training program which uses numerous complementary instructional methods and media which are Army Learning Model (ALM) 2015 compliant incorporating 21st century soldier competencies and general learning outcomes to present knowledge and skills of increasing complexity. This individual concept and training strategy will be capable of supporting fielding, operations, and sustainment training of the UH-60V for the institution, and fielded units. The training program will use a hierarchical building block approach to provide task introduction, reinforcement, and evaluation. It will include provisions for peacetime and mobilization and will minimize facility requirements. The various instructional programs will be based on knowledge gained from the Task Analysis (TA), Early User Testing (EUT), Logistical Demonstration (LD), Technical Testing (TT), Force Development Test and Experimentation (FDTE), Initial Operational Test and Evaluation (IOTE), and Cost and Training Effectiveness Analysis (CTEA) input. Appropriate Institutional and Individual/Sustainment courses of instruction, new Soldiers Manuals (SMs), and Training Guides (TGs) for applicable Military Occupational Specialties (MOS) and Areas of Concentration (AOC) will be developed as technical data becomes available. Individual qualification training will be conducted by the training institutions listed in paragraph 6.0 . The institutional training concept and strategy will utilize the system training concept listed in paragraph 5.0 for qualifying individuals in the UH-60V. The PM is responsible for the funding of all training hardware, software, and communication systems to include: Distributed Learning (DL) courseware package, support tools, personnel training, training equipment, and Associated Support Items of Equipment (ASIOE) to support the training for USAACE and NET. The amount is dependent upon availability and accuracy of Qualitative and Quantitative Personnel Requirements Information (QQPRI).

#### **6.1.1 Product Lines**

The following paragraphs describe the product lines that will be used to support the UH-60V.



#### **6.1.1.1 Training Information Infrastructure**

The UH-60V training information infrastructure should interface with the Live-Virtual-Constructive (LVC) Training Environment through the Synthetic Environment Core (SE Core), if a training requirement necessitates it. SE Core is a key U.S. Army initiative specifically designed to enhance the training and mission rehearsal capabilities we provide our Warfighters. The objective of SE Core is to ensure that the Army's virtual simulation systems are fully integrated, interoperable, and compatible with live and constructive training systems so that our Warfighters can truly "train as they fight."

SE Core is the Army's virtual component of the LVC Integrated Architecture. SE Core will develop new and integrate existing hardware and software products to create the Army's Common Virtual Environment (CVE). The objective will be to link system and non-system virtual simulations into a fully integrated training capability. SE Core is a key element in the Army's Training Transformation plan to link the Future Combat System's (FCS) embedded multi-mode LVC training capability with Battlefield Surveillance Brigades (BfSB), Fires, Stryker Forces, and Joint-Interagency-Intergovernmental-Multinational (JIIM) virtual simulators. SE Core components include standard virtual visual models, Objective One Semi-Automated Force (One SAF)(OOS) integration, standard Terrain Database (TDB) generation process, master TDB open format, dynamic terrain, atmospheric effects, Chemical, Biological, Radiological, Nuclear And High-Yield Explosive (CBRNE) effects, and integrated after action review (AAR). Once developed, SE Core's standard components will reduce redundancy, increase realism and facilitate an integrated LVC TEST.

There are two primary initiatives under the SE Core program: the Architecture and Integration (A&I) and the Database Virtual Environment Development (DVED). With SE Core as the foundation, the Army will leverage existing virtual simulation systems as well as expand the overall use of virtual simulation within LVC environments to support ongoing Army transformation. SE Core provides the framework using an industry extensible open architecture comprised of government and commercial off-the-shelf tools. The SE Core component extensibility will support the fulfillment of future training needs such as the FCS. The components combine to create virtual simulation capabilities such as dynamic environment, atmospheric effects; after action review; exercise management tools; CBRNE environments; computer generated forces; and command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) systems. By using a standard (Value Stream Analysis ) VSA, the Army can link the common virtual components into a plug-and-play environment, thus reducing redundancy, leveraging reuse, and facilitating the integration of the LVC training environments.

The UH-60V will include training, Distributed Learning (DL) package and courseware

design that will be developed in a reusable and maintainable format, i.e., SCORM compliant.

#### **6.1.1.1.1 Hardware, Software, and Communications Systems**

Training will emphasize Distributed Learning (DL). DL packages will be in the form of Interactive Multimedia Instruction (IMI) nonproprietary software and hardware and electronic portable media capable of being utilized in a variety of electronic media formats. DL packages will also include any procedural or doctrinal changes, and any upgrades or other changes to the training.

#### **6.1.1.1.2 Storage, Retrieval, and Delivery**

Instructors and students must have access to computers with web browser, intranet, and internet capability which will be used as training tools for all DL packages. Capabilities that allow for the collection, organization of, and provide access to digital TSS products and information on the UH-60LV will include DL repositories, Defense Connect Online (DCO), delivered to the Army through Army Training Network (ATN).

#### **6.1.1.1.3 Management Capabilities**

Information and training management capabilities will be aligned with those in the DTMS.

#### **6.1.1.1.4 Other Enabling Capabilities**

Interoperability and data exchange as required by the Key Performance Parameters (KPP) of the Recapitalization of the UH-60 Fleet ORD, and the Training Support System (TSS), will exist with the Army Training Information Architecture (ATIA), the Common Training Instrumentation Architecture (CTIA), and the Live-Virtual-Constructive Integrated Architecture (LVC-IA); to support the primary components of the TSS Training Information Infrastructure (TII). Additionally, the capability for common communications and data exchange operating environment integral to the FCS will be incorporated into the system as appropriate.

#### 6.1.1.2 Training Products

Institutional training products and procedures must be developed IAW the latest TRADOC Regulation 350-70 and any USAACE supplementation. Training products and processes will be documented in the Automated Systems Approach to Training (ASAT) software suite, or any future automation tool that supersedes the current TD automation system. Documentation in ASAT, to the maximum capability of ASAT, is a requirement of TR 350-70. The ASAT is a suite of government and commercial integrated software products. The suite includes the ASAT training development modules and database engine, Microsoft Word, and PowerPoint. The ASAT development modules are available from the government, through the Army Training Support Center (ATSC) Program Manager for ASAT. A request from the Contracting Officer's Representative/ Contracting Officer's Technical Representative (COR/COTR) to ATSC-ASAT PM is required.

- The latest information on the ASAT program is available on the ASAT website <http://www.asat.army.mil/>. Commercial software is the responsibility of the training developer unless specifically stated otherwise in a valid contract. Training developers, government or contractor, may contact the USAACE Aviation ASAT office, to obtain the latest information concerning ASAT and WORD software versions and other software in use at [asat@conus.army.mil](mailto:asat@conus.army.mil).
- ASAT, WORD, and other software are evolutionary software. Products and process data delivered to the government, must be in the latest ASAT version (or any other TD automation tool that may be adopted by the Army); and compatible WORD version.
- Individuals selected to participate in Force Development Testing and Operational Testing, will receive training using the materials contained in the (Approved by the appropriate Proponents) UH-60V Aircrew Training Manual and the TSP/TTSP; in accordance with DA PAM 73-1. At the conclusion of the training, prior to the start of user testing, these individuals will be certified based on the adequacy of the training.
- DOTD will provide an Operational Test Readiness Statement (OTRS), per AR 71-3 and TOPM 73-151, to certify training for operators. USAALS will prepare an OTRS, to certify training adequacy for maintainer and support personnel.

#### **6.1.1.2.1 Courseware**

The PM will develop UH-60V Sharable Content Object (SCORM) compliant multimedia TSP that can be used to support institutional training at USAACE and individual training. The PM will also be responsible for upgrading the TSP as newer versions of software become available and modifications are made to the UH-60V.



#### 6.1.1.2.2 Courses

Course Name	Course Number
Initial Military Training	
IERW UH-60V Track	
IERW UH-60V/M Track	
15T10	
15F10	
15N10	
15B10	
15D10	
15G10	

15H10	
151A	
Professional Military Education (PME)	
15T30 (ALC)	
151A (Advance)	
Functional And ASI	

UH-60V/M Instructor Pilot Course	
UH-60LV/M Resident Instructor Course	
UH-60V/M Maintenance Test Pilot Course	
Mobilization	


#### **6.1.1.2.3 Training Publications**

The following are examples of Field Manuals, Training Circulars, Technical Manuals, and Soldier Training Publications that are required to support UH-60V training programs and should be included (If appropriate) in the Multimedia TSP:

Field Manuals/Joint Publications:

FM 1 The Army; 14 June 01

FM 2.0 Intelligence and Electronic Warfare Operations; Date TBD

FM 3-XX.XX Security and Support/Generating Force MEDEVAC Mission; Date TBD

FM 3-04.100 Army Aviation Operations; Date TBD

FM 3-04.111 Aviation Brigades; 21 August 03

FM 3-04.113 Utility and Cargo Battalion; Date TBD

FM 3-04.115 Aviation Battalion Task Force; Date TBD

FM 3-04.118 General Support Battalion Operations; Date TBD

FM 3-04.119 Service and Support Helicopter Battalion Operations; Dated TBD

FM 3-04.131 Aviation Headquarters and Headquarters Company; Date TBD

FM 3-04.132 Attack/Reconnaissance Company; Date TBD

FM 3-04.134 Command Aviation Company; Date TBD

FM 3-04.140 Helicopter Gunnery

FM 3-04.155 Unmanned Aerial Systems (UASs) Operations; Date TBD

FM 3-04.201 Fundamentals of Flight; Date TBD

FM 3-04.202 Environmental Flight; Date TBD

FM 3-04.203 Fundamentals of Flight; Date TBD

FM 3-04.230 Meteorology for Army Aviators; Date TBD

FM 3-04.240 Instrument Flying and Navigation for Army Aviators; Date TBD

FM 3-04.300 Flight Operations and Airfield Management; Date TBD

FM 3-04.301 Aeromedical Training for Flight Personnel; 29 August 00

FM 3-04.400 Aviator's handbook; Date TBD

FM 3-04.402 Aviator's Recognition Manual; Date TBD

FM 3-04.501 Aviation Unit Maintenance Company; Date TBD

FM 3-04.513 Battlefield Recovery and Evacuation of Aircraft; 27 September 00

FM 3-04.514 Fundamentals of Rotor and Powertrain Maintenance Techniques and Procedures; Date TBD

FM 3-04.563 Fundamentals and Procedures of Airframe Maintenance; Date TBD

FM 3-04.564 Shipboard Operations; 29 June 97

FM 3-06.1 Aviation Urban Operations - Multiservice Procedures for Aviation Urban Operations; 15 April 01

FM 3-09.3 Tactics, Techniques, and Procedures for Observed Fire; Date TBD

FM 3-11.3 NBC Contamination Avoidance; Date TBD

FM 3-20.95 Cavalry Operations; Date TBD

FM 3-21.60 Visual Signals; Date TBD

FM 3-97.6 Mountain Operations; 28 November 00

FM 7-0 Training for Full Spectrum Operations; 12 December 08

FM 8-10-26 Employment of the Medical Company (Air Ambulance); 16 February 99

JP 3-26 Joint Doctrine for Homeland Security, Second Draft, dated 11 Sep 03

Technical Manuals:

TM 1-1500-328-23 Aeronautical Equipment Maintenance Management Policies and Procedures; 28 February 91

TM 55-1500-342-23 Army Aviation Maintenance Engineering Manual for Weight and Balance; 29 August 86

OEM MANUAL Series Manuals UH-60V Specific Designation TBD, Dated TBD

OEM MANUAL UH-60V Specific Designations are TBD; Dated TBD

OEM/FLIGHT MANUAL OEM Operator's Rotorcraft Flight Manual for UH-60V

OEM / CHECK-LIST OEM Operator's Checklist for UH-60V

OEM / MTF MANUAL OEM Maintenance Test Flight Manual for UH-60V

UH-60V Aircrew Training Manual;

TC 1-201 Tactical Flight Procedures; 20 January 84

TC 1-204 Night Flight Techniques and Procedures; 27 December 88

TC 1-210 Aircrew Training Program; Commander's Guide to Individual and Crew Standardization; Dated 8 January 96

TC 1-400 Brigade Aviation Element Handbook; Dated TBD

TC 1-500 Service and Support Battalion Operations; Dated TBD

Soldiers Manuals:

STP 1-15B13-SM-TG SOLDIER Manual, Skill Levels 1/2/3 and Trainer's Guide MOS 15B;  
Date TBD

STP 1-15C13-SM-TG SOLDIER Manual, Skill Levels 1/2/3 and Trainer's Guide MOS 15C;  
Date TBD

STP 1-15D13-SM-TG SOLDIER Manual, Skill Levels 1/2/3 and Trainer's Guide MOS 15D;  
Date TBD

STP 1-15F13-SM-TG SOLDIER Manual, Skill Levels 1/2/3 and Trainer's Guide MOS 15F;  
Date TBD

STP 1-15G13-SM-TG SOLDIER Manual, Skill Levels 1/2/3 and Trainer's Guide MOS 15G;  
Date TBD

STP 1-15K13-SM-TG SOLDIER Manual, Skill Levels 3 and Trainer's Guide MOS 15K; Date  
TBD

STP 1-15M13-SM-TG SOLDIER Manual, Skill Levels 1/2/3 and Trainer's Guide MOS 15N;  
Date TBD

STP 1-15N13-SM-TG SOLDIER Manual, Skill Levels 1/2/3 and Trainer's Guide MOS 15(?);  
Date TBD

3-04.119 Security and Support Helicopter Battalion Field Manual

#### **6.1.1.2.4 Training Support Package (TSP)**

The UH-60V TSP will provide a structured training program that supports individual institutional training and will be integrated into a training exercise. All validated TSPs will be loaded into the Training Development Capability (TDC) database by the MD or their designated contractor. TSPs will contain operator and maintainer IMI. The Materiel Developer will provide a complete library of available UH-60V related operators manuals, maintenance manuals, and related training materials.



#### 6.1.1.3 TADSS

Aviators require aviation TADSS that allow them to train as they will operate within a modular force construct, maintain proficiencies, and execute high fidelity aviation mission rehearsals. The flight simulators must replicate the physical and functional fidelity of the actual aircraft to be able to perform before starting engine checks, startup, run-up, hover, flight, mission modes, mission equipment, maintenance tasks, landing and shutdown while avoiding negative habit transfers. The aviation simulators (including unmanned aerial system simulators) must meet High Level Architecture (HLA) network capabilities with other Army simulators and be distributed interactive simulation (DIS) compliant. The Material Developer should consider the integration of Synthetic Environment (SE) Core common virtual components, terrain databases, and one Semi-Automated Forces (OneSAF) for use as the computer generated force to reduce future development and life-cycle costs and to enhance the training and mission rehearsal capabilities for our Warfighters. Individual Training Requirements for the aircraft simulators include Aircrew Training Manual (ATM) tasks, emergency procedures, and start-up/run-up/shutdown procedures. Collective training requirements for the aircraft simulators include ATM tasks and unit specific METL tasks. The critical tasks include radio operations/communications procedures which require appropriate representation of the radios to include JTRS.

Aviation Maintenance Personnel require TADSS that provide a high fidelity replication of the aircraft environment that they will be working in. Maintainer Devices. Maintenance training devices must simulate the physical and functional fidelity necessary to train TRADOC selected critical tasks to applicable TRADOC standards.

Material Developer will develop 3-D objects that are fully interactive Free Play/Exploration mode, allowing user to attach/detach parts as desired. View internal components, rotate the equipment in all directions, view parts in context through semi transparency, view equipment in line drawing or X-Ray mode, disassemble and reassemble the equipment while experiencing constraints on parts, get detailed information, etc. User can pause animation and move 3D model around freely, including any camera angle and part movements in real time. To perform a task, the user must be able to select parts and actually perform the actions to be done on the 3D model, such as removing/replacing parts in real time and perform multi-direction cross-sectioning in real time. Movement constraints can be associated with parts (such as hinges, bolts, gauges) and user can move parts in constrained manner in real time. Parts can be linked to other 3D simulations, documents, and web pages. It may have the capability of being inserted into Microsoft Word, PowerPoint and Adobe PDF via "insert" menus.

**Rationale:** Provides description that is applicable to all TADSS.

#### **6.1.1.3.1 Training Aids**

See Para 6.1.1.3

#### **6.1.1.3.2 Training Devices**

Aviator and maintenance training devices must simulate the physical and functional fidelity necessary to train selected UH-60V critical tasks to applicable TRADOC standards.

Maintenance training devices that must be considered are:

Black Hawk Electrical Trainer L model (BHET-L) is currently the primary training device used by the 15F to demonstrate proficiency in maintaining the electrical systems of the UH-60A/L. This trainer will require replacement as the current trainer is required to continue to train the 15F during the new trainer development, building and testing. This device provides maintainer training for remove and install, troubleshooting, fault isolation and maintenance operation checks.

Black Hawk Electrical Systems Trainer is an IMI program that provides the 15F an understanding of the electrical systems on the Black Hawk and allows the Soldier to build skill and knowledge on electrical system maintenance before using those skills and knowledge on a physical training device. This also reduces wear and tear on the physical devices. This is an ideal trainer for VIE, This device provides maintainer training for remove and install, troubleshooting, fault isolation and maintenance operation checks.

Black Hawk Avionics Trainer (BHAT) is currently the primary training device used by the 15N to acquire and demonstrate proficiency in maintaining the aircraft avionics systems of the UH-60M is currently designed strictly to the UH-60M avionics architecture. If the UH-60V architecture is significantly different it may be necessary to build a V model version of the trainer. This device provides maintainer training for remove and install, troubleshooting, fault isolation and maintenance operation checks.

Black Hawk Maintenance Trainer (BHMT) is currently the primary training device used by the 15T to demonstrate proficiency in maintaining the aircraft systems of the UH-60A and M (different model of the trainer). If the UH-60V architecture is significantly different it may be necessary to build a V model version of the trainer. This device provides maintainer training for remove and install, troubleshooting, fault isolation and maintenance operation checks.

Black Hawk Avionics Systems Trainer is currently the primary device used by the 15N to acquire and demonstrate proficiency in maintain aircraft avionics wiring of the UH-60L. The changes to the UH-60V architecture will necessitate upgrading these trainers.

All other maintenance training devices used to support the UH-60 maintainer training

programs will be evaluated against physical changes to the aircraft, the approved critical training task list, the IETM task steps, and the task fidelity audit to determine if the upgrades affect training. Any devices required will then be added to the current device specification and provided by the MD.

#### **6.1.1.3.3 Simulators**

The Materiel Developer shall provide UH-60V flight and maintenance simulators for use by TRADOC, active, guard, and reserve components. Aviators require aviation TADSS that allow them to train as they will operate within a modular force construct, maintain proficiencies, and execute high fidelity aviation mission rehearsals. The flight simulators must replicate the physical and functional fidelity of the actual aircraft to be able to perform before starting engine checks, startup, run-up, hover, flight, mission modes, mission equipment, maintenance tasks, landing and shutdown while avoiding negative habit transfers. The aviation simulators (including unmanned aerial system simulators) must meet High Level Architecture (HLA) network capabilities with other Army simulators and be distributed interactive simulation (DIS) compliant. The Material Developer should consider the integration of Synthetic Environment (SE) Core common virtual components, terrain databases, and one Semi-Automated Forces (OneSAF) for use as the computer generated force to reduce future development and life-cycle costs and to enhance the training and mission rehearsal capabilities for our Warfighters. The key enablers required are a network of common integrated training and operational live, virtual, constructive capabilities at home station, combat training centers, and operations over-seas in permissive environments. Individual Training Requirements for the aircraft simulators include Aircrew Training Manual (ATM) tasks, emergency procedures, and start-up/run-up/shutdown procedures. Collective training requirements for the aircraft simulators include ATM tasks and unit specific METL tasks. The critical tasks include radio operations/communications procedures which require appropriate representation of the radios to include JTRS.

#### **6.1.1.3.4 Simulations**

See Para 6.1.1.3

#### **6.1.1.3.5 Instrumentation**

See Para 6.1.1.3



#### **6.1.1.4 Training Facilities and Land**

Facility Requirements: The adequacy of current facilities (simulator complex, academic classroom/classroom XXI, ranges, maneuver areas, and training sites), to conduct training at EAATS will require site surveys be conducted at the earliest opportunity and Major Commercial Account (MCA) and Major Construction Army requirements be identified and submitted for approval and funding. Close coordination with Directorate of Plans, Training, Mobilization and Security (DPTMS) will ensure that training requirements are captured and adequate support is provided.

#### **6.1.1.4.1 Ranges**

Facility Requirements: The adequacy of current facilities (simulator complex, academic classroom/classroom XXI, ranges, maneuver areas, and training sites), to conduct training at Eastern ARNG Aviation Training Site (EAATS) will require site surveys be conducted at the earliest opportunity and MCA requirements be identified and submitted for approval and funding. Close coordination with DPTMS will ensure that training requirements are captured and adequate support is provided.

#### **6.1.1.4.2 Maneuver Training Areas (MTA)**

The UH-60V will use existing Maneuver Training Areas (MTAs) currently in use for the UH-60L aircraft. No additional MTAs should be required to support this upgrade/fielding.

#### **6.1.1.4.3 Classrooms**

Where possible the UH-60V will use existing classrooms. The staff training estimate in support of the UH-60V will focus on the most efficient use of existing resources and precisely identify and quantify any expected shortfalls. Sufficient classrooms are required to be available to support operator, maintainer and technician training. These include traditional classrooms, Classroom XXI, digital training facilities, maintenance hangars and maintenance classrooms.

#### **6.1.1.4.4 CTCs**

Use to the maximum extent possible when available. The CTC program is to provide highly realistic and stressful joint, and combined arms training according to Army and joint doctrine. This training approximates actual combat. UH-60V units will develop and conduct tactically sound training scenario missions on approved doctrine for all individual and collective tasks. UH-60V units should be able to interface with CTCs to receive unit task training performance feedback that identifies the need or requirement to develop or revise training scenario missions. The proponent schools will review CALL trends (provided by the CTCs CONOP collection efforts) and apply, as appropriate, lessons learned to training and doctrinal products. These areas will include the Mission Command Training Center, Joint Readiness Training Center, National Training Center, and Joint Multinational Readiness Center.

#### **6.1.1.4.5 Logistics Support Areas**

Sufficient facilities are required for use by Contractor Logistics Support Personnel to provide technical support for the operation and maintenance of training systems.

#### **6.1.1.4.6 Mission Training Complex (MTC)**

Not Applicable.

#### **6.1.1.5 Training Services**

The management, acquisition, and support devices that enable the preparation, replication, distribution, and sustainment training will be obtained when required. Some of the considerations that should be reviewed when contracting for training products and for training services include the scope of the training requirement, course control data, instructional materials, devices and equipment to support training, facilities and training environment, instructors and support personnel, and contract management.



#### **6.1.1.5.1 Management Support Services**

TBD

#### **6.1.1.5.2 Acquisition Support Services**

MD will provide continued upgrade of the system.

#### **6.1.1.5.3 General Support Services**

The PM is responsible for coordinating Army or contractor support and funding for the required general support services throughout the life cycle of the UH-60V Blackhawk.

### **6.1.2 Architectures and Standards Component**

Architectures and standards will provide the means to ensure integration and interoperability across product lines to support the UH-60V Blackhawk.

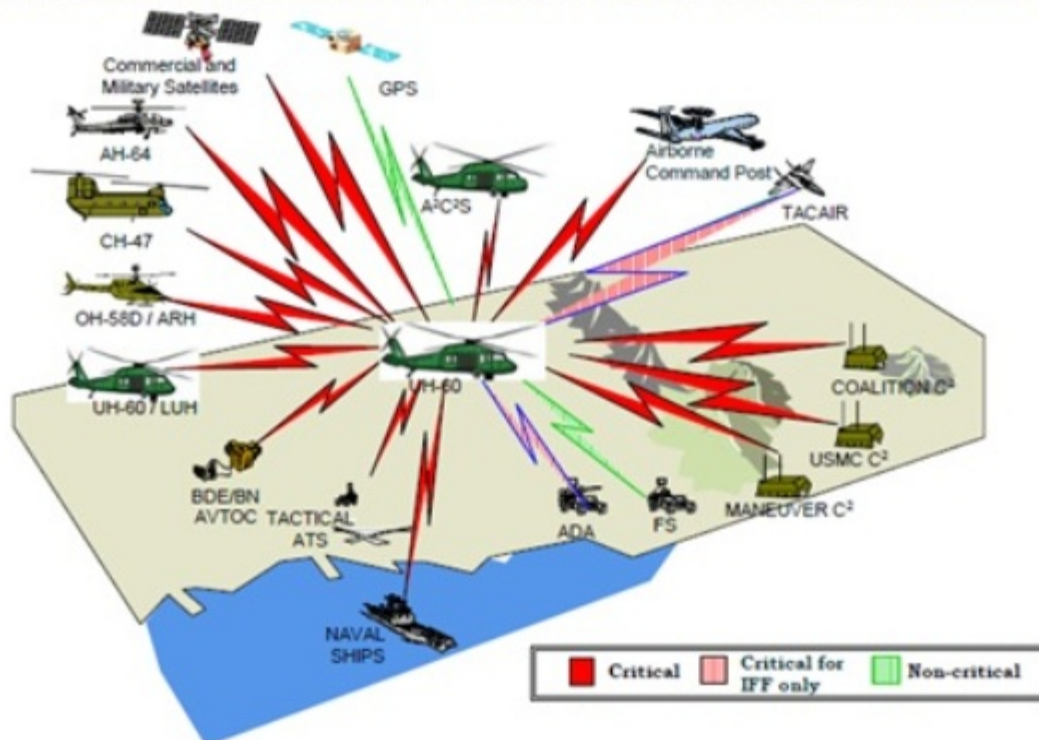
Architectures are the structure of UH-60V Blackhawk training components, their relationship, and the principles and guidelines governing their design and evolution over time. They will be the framework that describes missions, organizations, and systems; specifies interfaces and interrelationships amongst its various parts; and facilitates coordination and synchronization with internal and external interfaces. The UH-60V Blackhawk training subsystem will be integrated into three types of architectures - organization, functional, and systems - each of which may have operational, technical, and systems views. The architecture and standards used to conduct UH-60V Blackhawk training at USAACE are described in detail in other paragraphs throughout this document.

#### **6.1.2.1 Operational View (OV)**

The primary mission of UH-60V is to perform vertical envelopment and vertical replenishment as well as MEDEVAC and C2. It provides C4ISR interfaces to exploit the capabilities of a joint force support the maneuver force commander. It interfaces the common tactical picture providing platform location and status. UH-60V messaging supports text and graphics exchange with other battlefield systems. UH-60V contributes to enhanced situational awareness and survivability through active and passive countermeasures and joint command and control interoperability. The communications suite includes multiple, transmit and receive, waveforms that support voice, data, line-of-sight and beyond line-of-sight connectivity.

## UH-60 BLACK HAWK High-Level Operational Concept Graphic (OV-1)

<u>ons:</u>	<u>Primary Mission:</u>	Utility Cargo/	Personnel and	Command	CASEVAC	Volcano
		Combat Sustainment	Cargo Movement	and Control	MEDEVAC	
<u>ions:</u>	Homeland	Humanitarian	Special	Stability and	Small Scale	Major Cor
	Security	Assistance	Operations	Support Operations	Contingencies	Operatic



Operational View

#### **6.1.2.2 Systems View (SV)**

The UH-60V should consider interacting with AVCATT via SE Core V-DIS and will be compatible with Army Battle Command Systems (ABCS) components as well as selected other TADSS and communications systems. The UH-60V will also use a homestation instrumentation training system (HITS) to allow a live training system view.

#### 6.1.2.3 Technical View (TV)

The UH-60V will support system-to-system compatibility with:

- Joint Technical Architecture - Army (JTA-A)
- Common Operating Environment (COE)
- Installation Information Infrastructure Architecture (I3A)
- High Level Architecture (HLA)
- Army Training Information Architecture (ATIA)
- Common Training Instrumentation Architecture (CTIA)
- Live, virtual, constructive - intergraded training environment (LVC-ITE)
- Digital Range Training System (DRTS)
- Standards and specifications for TSS components and subcomponents (e.g., standards and specs for ranges, targetry, classrooms, etc.)
- Sharable Content Object Reference Model (SCORM)
- Homestation Instrumentation System (HITS)
- Future Army TESS (ATESS)



### **6.1.3 Management, Evaluation, and Resource (MER) Processes Component**

The TSS Management, Evaluation, and Resource (MER) processes will monitor the health and relevance of the TSS in regards to the UH-60V training subsystem, establish priorities, and align resources against those priorities. They use UH-60V issues and feedback from the force to ensure decisions address real concerns from commanders and Soldiers. MER processes will employ best business practices to plan, implement, and sustain the TSS. The processes consider both internal and external drivers that impact TSS and guide the development, maintenance, and sustainment of the TSS.

#### **6.1.3.1 Management**

Where possible the UH-60V will use existing facilities and support infrastructure. The staff training estimate in support of the UH-60V will focus on the most efficient use of existing resources and precisely identify and quantify any expected shortfalls. Training development will focus on producing products that incorporate the maximum use of simulators/simulation to mitigate cost and risk. Students and instructors will be routinely asked to evaluate training events and products to determine how best to improve the quality and efficiency of instruction and training events to provide the best quality training with the least expenditure of resources.

#### **6.1.3.1.1 Strategic Planning**

The development and upgrade/fielding of the UH-60V supports Army Transformation and Training Transformation and is consistent with the guidance found in:

National Defense strategies

Joint Vision 2020

The Army Plan and other Service plans

Future force documentation

TRADOC supporting plan to the Army Transformation Campaign Plan (ATCP)

TSS Strategic Plan (when published)

Army Learning Model 2015(ALM 2015)

TSS Program Strategy Formulation

#### **6.1.3.1.2 Concept Development and Experimentation (CD&E)**

The Army Capabilities Integration Center (ARCIC) is responsible for chartering Integrated Capability Development Teams (ICDT) to lead joint and Army CD&E efforts throughout TRADOC and in cooperation with non-TRADOC proponents. The charter will synchronize and integrate Army CD&E with joint CD&E, and develop joint concepts and architectures, ICW HQDA, the Joint Staff Functional Capabilities Board (FCB) Working Groups, Joint Forces Command (JFCOM) J9, Northern Command (NORTHCOM), and Strategic Command (STRATCOM). Provide direction to TRADOC proponents and/or non-TRADOC proponents to establish an ICDT to develop concepts and execute the JCIDS/CIDS process. Ensure adequate representation from non-TRADOC organizations in these ICDTs. The following ARCIC chartered ICDT responsibilities include developing concepts, writing concepts and submitting the concepts to the ARCIC (Dir CD&E) for review and approval. Perform the capabilities based assessment of joint and Army concepts to include conducting Functional Area Analysis (FAA) and forwarding FAA results to the Dir CD&E for validation. Conduct Functional Needs Analysis (FNA), and forwarding the FNA prioritized list of capability gaps and redundancies to the Dir CD. Performing the DOTMLPF Analysis for the Functional Systems Analysis (FSA) and forwarding recommended non-material changes, product improvements to existing material of facilities, adoption of interagency, other service, or foreign material solutions, and new material starts to the Dir CD for validation. Developing ideas for material approaches in coordination with Research, Development, and Engineering Command (RDECOM), Research, Development and Engineering Center (RDEC). Conducting Analysis of Materials (AMA) and forwarding the AMA prioritized list of material approaches to the Dir CD. Developing Operational Architecture (OA) products as required by the concept, ICD, CDD, and CPD. Forwarding OA products to the Dir AIM for validation, integration, and approval and ensuring TRADOC DCSINT approves threats used in concept development and any modeling efforts supporting capabilities developments.

#### **6.1.3.1.3 Research and Studies**

Conduct research and studies that will explore science and technology initiatives for potential UH-60V training and training support capabilities that can result in high payoffs on the battlefield. The ultimate goal will be to identify opportunities that will improve the training and education process and result in efficiencies in force readiness. The TSS MER processes also ensure training support capabilities are focused and are not redundant or irrelevant.

#### **6.1.3.1.4 Policy and Guidance**

In addition to 6.1.1.2.3, the documents listed below apply to UH-60V Institutional Training and use:

TRADOC Regulations 350-70 Army Learning and Policy Systems, 6 December 2011.

TRADOC Regulation 71-20 Concept Development, Experimentation, and Requirements Determination, 6 Oct 2009.

AR 350-1 Army Training and Leader Development, 18 December 2009.

AR 350-38 Training Device Policies and Management, 28 March 2013.

Command Training Guidance

Doctrine (ADP 7-0, Army Training Network (ATN)).

AR 73-1 Test and Evaluation Policy, 1 August 2006.

USAACE 350-70

#### **6.1.3.1.5 Requirements Generation**

This STRAP supports the Operational Requirements Document (ORD) for the Recapitalization of the UH-60 Black Hawk Utility Helicopter Fleet, Apr 2005, along with the UH-60L Cockpit Improvements Requirement Definition and Tracing memorandum, dated 20 January 2011.

#### **6.1.3.1.6 Synchronization**

Not Applicable



#### **6.1.3.1.7 Joint Training Support**

Not Applicable

#### **6.1.3.2 Evaluation**

The institutional evaluation process will be conducted in accordance with TRADOC 350-70 and AR 5-11.

#### **6.1.3.2.1 Quality Assurance (QA)**

All UH-60V POI's are inspected for QA in accordance with TRADOC accreditation standards.

#### **6.1.3.2.2 Assessments**

Assessments will be those actions that make a valuation of the UH-60V Training Subsystem and its relevance to the training process. Examples of assessment tools include:

Training evaluations and analysis

Monthly status reports

Strategic Readiness System

Post Fielding Training Effectiveness Analysis (PFTEA). Primary input will be provided by fielded units through their Army Commands (FORSCOM, TRADOC, NGB) through HQDA to the PM. The purpose of this PFTEA is to determine how effectively and efficiently the training is meeting user requirements. The findings will be used to provide lessons learned information on the training development effort associated with future weapon systems or product improvement.

PFTEA will be conducted after the weapon system has been fielded for one year. Funding requirements will be identified by USAACE to HQ TRADOC to support the PFTEA process.

#### **6.1.3.2.3 Customer Feedback**

The following tools will be used to obtain customer feedback which include, those actions that allow for the evaluative and corrective information about the UH-60V training subsystem and its relevance to the training process:

Surveys

Collaboration

Interviews

Questionnaires

Critiques

#### **6.1.3.2.4 Lessons Learned/After-Action Reviews (AARs)**

Lessons Learned/AARs will be those actions that allow for the collection, analysis, and dissemination of data from a variety of current and historical sources to support efficient and effective UH-60V Institutional Training operations. Examples of sources of lessons learned include CALL documentation (repositories, newsletters, etc.), AAR take home packages, critiques, etc.

#### 6.1.3.3 Resource

Item Resourced	FY14	FY15	FY16	FY17	FY18	FY19	FY20
Total NET Cost	\$	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000
NET Team (NETT) Instructors	\$	\$600,000	\$600,000	\$600,000	\$600,000	\$600,000	\$600,000
Travel	\$	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000
Service/Supplies	\$	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
Training Equipment	\$	NA	NA	NA	NA	NA	NA
Courseware Development	\$	\$800,000	\$800,000	\$800,000	\$800,000	\$800,000	\$800,000
Training							

Development	\$	\$700,000	\$700,000	\$700,000	\$700,000	\$700,000	\$700,000
Training & Education Developers	\$	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000
Travel	\$	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000
TADSS Software Developemnt and Upgrades	\$	\$800,000	\$800,000	\$800,000	\$800,000	\$800,000	\$800,000
Edit as needed or delete this text							
Edit as needed or delete this text							
Edit as needed or delete this text							



Edit as needed or delete this text							
Edit as needed or delete this text							
GRAND TOTAL	\$	\$11,105,000	\$11,105,000	\$11,105,000	\$11,105,000	\$11,105,000	\$11,105,000

Rationale:



## **7.0 Operational Training Domain**

The objective of the UH-60V Upgrade operational training is unit and individual/crew combat readiness and the development of lethal teams, soldiers, and leaders. Field commanders continue to employ the principles of Army training to train mission-essential tasks at the larger and smaller unit-level. Unit training will be hands-on and standards based. The intent will be to provide leaders, units, and Soldiers with a realistic, operationally relevant training environment that replicates the full spectrum of potential operations.

## **7.1 Operational Training Concept and Strategy**

Sustainment training shall be designed and developed IAW the appropriate regulations to support sustainment and continuation training for the UH-60V qualified OMS personnel worldwide.

Collective OMS skills and proficiency will be trained and sustained through live simulation exercises with other combined arms players whenever possible. However, the lack of combined arms resources and prohibitive OPTEMPO costs, necessitate the need for organizational training using all three domains of simulation (constructive, virtual, and live) plus gaming with emphasis on constructive and virtual technology. Collective trainers such as AVCATT will be used. After Action Reviews (AAR) and repetitive drills to include gunnery scenarios, will prove an invaluable and cost efficient method of training an organization to the skill and proficiency level necessary for live certification of combat readiness.

Exportable Training Support Packages (TSP), Aircrew Training Manual (ATM), STP, Digital Training Management System (DTMS), Combined Arms Training Strategy (CATS), Interactive Multimedia Instruction (IMI), training aids, desktop/part task trainers, procedural trainers, flight simulators, and collective simulation capability are the products that will be available for the commander to train and sustain individual and collective skills.

#### **7.1.1.1 Product Lines**

The Product Lines for the UH-60V includes courseware, courses, training publications and training support packages. Courseware will focus on the Interactive Courseware (ICW) package developed by the MD. The training developer will update appropriate training publications. Training Support Packages Supporting individual and collective training will be developed by the Material Developer in coordination with the Training Developer. POIs and resident training material will not be used at the unit level.

#### **7.1.1.1 Training Information Infrastructure**

The UH-60V helicopter will interface with the Live, Virtual, Constructive (LVC) gaming environment through the Integrated Training Environment (ITE). ITE is the Army's virtual component of the LVC Integrated Architecture. ITE will develop and integrate existing products to create the Army's common virtual environment (CVE). The objective will be to link system and non-system virtual simulations into a fully integrated training capability. Once developed, the ITE standard components will reduce redundancy and increase realism.

#### **7.1.1.1.1 Hardware, Software, and Communications Systems**

The interconnected local and global network infrastructure will be used for dissemination and delivery of the UH-60V training support information including: distributed Learning (dL) repositories such as the Army Learning Management System (ALMS), or the Digital Training Management System (DTMS); Video Tele-training (VTT) delivered to the Army through Army Training Network (ATN).

#### **7.1.1.1.2 Storage, Retrieval, and Delivery**

Sustainment training will emphasize DL. DL packages will be in the form of electronic portable media and will include any procedural or doctrinal changes and any upgrades or other changes to the training. The MD is responsible for developing DL packages that involve system-specific upgrades and changes along with sustainment DL training. If DL is not yet embedded on the operational equipment, the units must have access to computers with web browser capability which will be used as training tools for all training packages developed. Capabilities that allow for the collection, organization of, and provide access to digital TSS products and information on the UH-60V will include Distributed Learning (DL) repositories, Video Tele-training (VTT) delivered to the Army through Army Training Network (ATN).

Commanders will ensure the following training management tools are understood and used IAW AR 350-1:

(1) Doctrine for planning and conducting training (ADP 7.0; ADRP 7.0; ATN Unit Training Management tab) and Army-approved software programs for implementing it (for example, the Digital Training Management System (DTMS)).

(2) Army published training strategies for the unit (Combined Arms Training Strategies (CATS) for maneuver training and Army Weapons Strategies/STRAC/DA Pam 350-38 for live-fire training).



#### **7.1.1.1.3 Management Capabilities**

Information and training management capabilities will mirror those of the current UH-60. The information systems that allow for the management of digital TSS products and information on the UH-60V may include Standard Army Training System (SATS)/Unit Training Management Systems (UTMC), Digital Training Management System (DTMS), Learning Management System (LMS), Distributed Learning System, Individual Training Resource Management (ITRM) system, Automated Instructional Management System-Personal Computer (AIMS-PC), Material Army-wide Tracking System (MATS), and Reception Battalion Automated Support System (RECBASS).

#### **7.1.1.1.4 Other Enabling Capabilities**

Interoperability and data exchange as required by the Training Support System (TSS) will exist with the Army Training Integrated Architecture (ATIA), the Common Training Instrumentation Architecture (CTIA), Training Instrumentation System (TIS), and the Live, Virtual, Constructive Integrated Training Environment (LVC-ITE) to support the primary components of the TSS Training Information Infrastructure (TII).

#### 7.1.1.2 Training Products

The UH-60V training subsystem will require upgrades to software, hardware, and databases. TSPs will be delivered by the MD to UH-60V sites as needed for the life cycle of the system.

- The MD will develop a SCORM 2004 compliant multimedia TSP compatible with the Army Learning Management System (ALMS) and automation equipment installed in The Army Distance Learning Program (TADLP) Classrooms, classroom XXI, and DISA installed infrastructure.
- Training Aides, Devices, Simulators, and Simulations (TADSS), Interactive Courseware (ICW), Computer Based Training (CBT), and Computer Aided Instruction (CAI) will be used to the maximum extent possible. The system TADSS will be capable of Force-on-Force interplay at Home Station, CTCs, and deployed training sites by interfacing with Tactical Engagement Simulation System (TESS), CTC-instrumented systems, HITS, Army Mobile Instrumented Training System (AMITS).

Operator simulators must have the physical and functional capabilities necessary for individual/crew, and collective combined arms training of selected TRADOC critical tasks to appropriate standard. The cockpit, flight controls, weapons, sensors, Aircraft Survivability Equipment (ASE), communications, and navigation systems of these simulators must accurately replicate, physically and functionally, those of the actual aircraft and its systems to preclude negative habit transfer as determined by fidelity analysis. The AVCATT reconfigurable collective and combined arms simulator is the virtual simulation vehicle which will allow aviation to "Train to Fight" on the combined arms battlefield. Concurrency upgrades for AVCATT will be accomplished as necessary to meet UH-60V configurations and upgrades.

- Embedded Training (ET). Where training is enhanced by on board ET as an integral element of the UH-60V is highly desired. Consideration must be given to embedded training capabilities for ASE, and weapon systems engagements. Maintenance of this training should evolve towards embedded training applications in accordance with DA guidance for the Future Force.
- TESS will be used for force-on-force collective training in the same manner as the Multiple Integrated Laser Engagement System/Air-to-Ground Engagement System (MILES/ AGES) is used for other systems.
- The UH-60V collective training devices and simulators must have the capability to simulate, with a high degree of fidelity, the functional capabilities but not necessarily with the physical exactness of the UH-60V helicopter as required by the user. Simulator fidelity would enable training of collective tasks, to include multi-ship operations as well as mission rehearsal.

Objective collective training simulators must be a reconfigurable module of AVCATT. The collective training simulators must be capable of training selected collective task to applicable DA standards.

- Interactive Multimedia Instruction (IMI) should be WEB based enabled and be usable on standard Windows Operating System (Or current hardware language) compatible computers. This capability should support Computer Assisted Instruction (CAI), Computer Based Training (CBT), Interactive Electronic Technical Manual (IETM), individual self-paced instruction as well as formal classroom presentations and foster interaction among students and instructors. At a minimum, IMI will be available via disk.
- UH-60V models will be updated in constructive and game training to assist non AVN unit staff in unit simulation exercises.

System Hardware/Software and/or Components. Specifics are not currently available, however, all software developed for CAI, CBT, IETM, etc. must be useable on Windows compatible computers. Software developed for the flight and maintainer simulators are excluded from the Windows compatibility requirement.

#### **7.1.1.2.1 Courseware**

The MD will provide a UH-60V multi-media TSP (ICW, IMI, or web-based instruction) that can be used to support unit sustainment training and (DL) training. The MD will also be responsible for upgrading the TSP as newer versions of software become available and modifications are made to the UH-60V.

#### 7.1.1.2.2 Courses

Course Name	Course Number
Initial Military Training	
15B	
15D	
15F	
15G	
15H	
15K	
15N	
15T	

Professional Military Education (PME)	
15T30 (ALC)	
151A (Advance)	
Functional And ASI	
UH-60V/M Instructor Pilot Course	
UH-60V/M Resident Instructor Course	

[illegible]




#### **7.1.1.2.3 Training Publications**

The following are examples of Field Manuals, Training Circulars, Technical Manuals, and Soldier Training Publications that are required to support UH-60V training programs and should be included (If appropriate) in the Multimedia TSP:

Field Manuals/Joint Publications:

FM 1 The Army; 14 June 01

FM 2.0 Intelligence and Electronic Warfare Operations; Date TBD

FM 3-XX.XX Security and Support/Generating Force MEDEVAC Mission; Date TBD

FM 3-04.100 Army Aviation Operations; Date TBD

FM 3-04.111 Aviation Brigades; 21 August 03

FM 3-04.113 Utility and Cargo Battalion; Date TBD

FM 3-04.115 Aviation Battalion Task Force; Date TBD

FM 3-04.118 General Support Battalion Operations; Date TBD

FM 3-04.119 Service and Support Helicopter Battalion Operations; Dated TBD

FM 3-04.131 Aviation Headquarters and Headquarters Company; Date TBD

FM 3-04.132 Attack/Reconnaissance Company; Date TBD

FM 3-04.134 Command Aviation Company; Date TBD

FM 3.04-140 Helicopter Gunnery

FM 3-04.155 Unmanned Aerial Systems (UASs) Operations; Date TBD

FM 3-04.201 Fundamentals of Flight; Date TBD

FM 3-04.202 Environmental Flight; Date TBD

FM 3-04.203 Fundamentals of Flight; Date TBD

FM 3-04.230 Meteorology for Army Aviators; Date TBD

FM 3-04.240 Instrument Flying and Navigation for Army Aviators; Date TBD

FM 3-04.300 Flight Operations and Airfield Management; Date TBD

FM 3-04.301 Aeromedical Training for Flight Personnel; 29 August 00

FM 3-04.400 Aviator's handbook; Date TBD

FM 3-04.402 Aviator's Recognition Manual; Date TBD

FM 3-04.501 Aviation Unit Maintenance Company; Date TBD

FM 3-04.513 Battlefield Recovery and Evacuation of Aircraft; 27 September 00

FM 3-04.514 Fundamentals of Rotor and Powertrain Maintenance Techniques and Procedures; Date TBD

FM 3-04.563 Fundamentals and Procedures of Airframe Maintenance; Date TBD

FM 3-04.564 Shipboard Operations; 29 June 97

FM 3-06.1 Aviation Urban Operations - Multiservice Procedures for Aviation Urban Operations; 15 April 01

FM 3-09.3 Tactics, Techniques, and Procedures for Observed Fire; Date TBD

FM 3-11.3 NBC Contamination Avoidance; Date TBD

FM 3-20.95 Cavalry Operations; Date TBD

FM 3-21.60 Visual Signals; Date TBD

FM 3-97.6 Mountain Operations; 28 November 00

FM 7-0 Training for Full Spectrum Operations; 12 December 08

FM 8-10-26 Employment of the Medical Company (Air Ambulance); 16 February 99

JP 3-26 Joint Doctrine for Homeland Security, Second Draft, dated 11 Sep 03

#### Technical Manuals:

TM 1-1500-328-23 Aeronautical Equipment Maintenance Management Policies and Procedures; 28 February 91

TM 55-1500-342-23 Army Aviation Maintenance Engineering Manual for Weight and Balance; 29 August 86

OEM MANUAL Series Manuals UH-60V Specific Designation TBD, Dated TBD

OEM MANUAL UH-60V Specific Designations are TBD; Dated TBD

OEM/FLIGHT MANUAL OEM Operator's Rotorcraft Flight Manual for UH-60V

OEM / CHECK-LIST OEM Operator's Checklist for UH-60V

OEM / MTF MANUAL OEM Maintenance Test Flight Manual for UH-60V

UH-60V Aircrew Training Manual;

TC 1-201 Tactical Flight Procedures; 20 January 84

TC 1-204 Night Flight Techniques and Procedures; 27 December 88

TC 1-210 Aircrew Training Program; Commander's Guide to Individual and Crew Standardization; Dated 8 January 96

TC 1-400 Brigade Aviation Element Handbook; Dated TBD

TC 1-500 Service and Support Battalion Operations; Dated TBD

Soldiers Manuals:

STP 1-15B13-SM-TG SOLDIER Manual, Skill Levels 1/2/3 and Trainer's Guide  
MOS 15B; Date TBD

STP 1-15C13-SM-TG SOLDIER Manual, Skill Levels 1/2/3 and Trainer's Guide  
MOS 15C; Date TBD

STP 1-15D13-SM-TG SOLDIER Manual, Skill Levels 1/2/3 and Trainer's Guide  
MOS 15D; Date TBD

STP 1-15F13-SM-TG SOLDIER Manual, Skill Levels 1/2/3 and Trainer's Guide  
MOS 15F; Date TBD

STP 1-15G13-SM-TG SOLDIER Manual, Skill Levels 1/2/3 and Trainer's Guide  
MOS 15G; Date TBD

STP 1-15K13-SM-TG SOLDIER Manual, Skill Levels 3 and Trainer's Guide MOS  
15K; Date TBD

STP 1-15M13-SM-TG SOLDIER Manual, Skill Levels 1/2/3 and Trainer's Guide  
MOS 15N; Date TBD

STP 1-15N13-SM-TG SOLDIER Manual, Skill Levels 1/2/3 and Trainer's Guide  
MOS 15(?); Date TBD

3-04.119 Security and Support Helicopter Battalion Field Manual

#### **7.1.1.2.4 TSP**

A complete exportable package will be provided with the training products, materials, and information necessary to train the critical tasks to operate, maintain, and support the UH-60V.

#### 7.1.1.3 TADSS

Aviators require aviation TADSS that allow them to train as they will operate within a modular force construct, maintain proficiencies, and execute high fidelity aviation mission rehearsals. The flight simulators must replicate the physical and functional fidelity of the actual aircraft to be able to perform before starting engine checks, startup, run-up, hover, flight, mission modes, mission equipment, maintenance tasks, landing and shutdown while avoiding negative habit transfers. The aviation simulators (including unmanned aerial system simulators) must meet High Level Architecture (HLA) network capabilities with other Army simulators and be distributed interactive simulation (DIS) compliant. The Material Developer should consider the integration of Synthetic Environment (SE) Core common virtual components, terrain databases, and one Semi-Automated Forces (OneSAF) for use as the computer generated force to reduce future development and life-cycle costs and to enhance the training and mission rehearsal capabilities for our Warfighters.

Individual Training Requirements for the aircraft simulators include Aircrew Training Manual (ATM) tasks, emergency procedures, and start-up/run-up/shutdown procedures. Collective training requirements for the aircraft simulators include ATM tasks and unit specific METL tasks. The critical tasks include radio operations/communications procedures which require appropriate representation of the radios to include JTRS.

Material Developer will develop 3-D objects that are fully interactive Free Play/Exploration mode, allowing user to attach/detach parts as desired. View internal components, rotate the equipment in all directions, view parts in context through semi transparency, view equipment in line drawing or X-Ray mode, disassemble and reassemble the equipment while experiencing constraints on parts, get detailed information, etc. User can pause animation and move 3D model around freely, including any camera angle and part movements in real time. To perform a task, the user must be able to select parts and actually perform the actions to be done on the 3D model, such as removing/replacing parts in real time and perform multi-direction cross-sectioning in real time. Movement constraints can be associated with parts (such as hinges, bolts, gauges) and user can move parts in constrained manner in real time. Parts can be linked to other 3D simulations, documents, and web pages. It may have the capability of being inserted into Microsoft Word, PowerPoint and Adobe PDF via "insert" menus.

**Rationale:** Provides description that is applicable to all TADSS.

#### **7.1.1.3.1 Training Aids**

See Para 7.1.1.3



#### **7.1.1.3.2 Training Devices**

See Para 7.1.1.3

#### **7.1.1.3.3 Simulators**

See Para 7.1.1.3

#### **7.1.1.3.4 Simulations**

See Para 7.1.1.3

#### **7.1.1.3.5 Instrumentation**

See Para 7.1.1.3

#### **7.1.1.4 Training Facilities and Land**

Installations in which the UH-60V will be fielded (academic classrooms/classroom XXI, ranges, maneuver areas, airspace, and training sites) require site surveys at the earliest opportunity. Major Construction Account (MCA) requirements need to be identified and submitted for approval and funding allocated in the event that additional construction is required. Hangar, parking facilities, etc., are the types of facilities that may require additions to and/or upgrades to support training. Additional MCA requirements may be required at other installations to support the fielding of the UH-60V and associated TADSS.

#### **7.1.1.4.1 Ranges**

Facility Requirements: The adequacy of current facilities (simulator complex, academic classroom/classroom XXI, ranges, maneuver areas, and training sites), to conduct training at EAATS will require site surveys be conducted at the earliest opportunity and MCA requirements be identified and submitted for approval and funding. Close coordination with DPTMS will ensure that training requirements are captured and adequate support is provided.

#### **7.1.1.4.2 Maneuver Training Areas (MTA)**

Facilities: Current facilities (simulator complex, academic classroom/classroom XXI, ranges, maneuver areas, and training sites) require site surveys at the earliest opportunity and MCA requirements identified and submitted for approval and funding in the event that additional construction is required. Admin/Billeting, hangar, parking facilities, maintenance structure etc., are the types of facilities needed to support institutional training. Additional MCA requirements may be required at other installations to support the fielding of the UH-60V and associated TADSS.

#### **7.1.1.4.3 Classrooms**

Distance Learning Infrastructure: Any UH-60V DL products will be developed to be compatible with TADLP, CRXXI classrooms, and DISA infrastructure specifications.



#### **7.1.1.4.4 CTCs**

Use to the maximum extent possible when available. The CTC program is to provide highly realistic and stressful joint, and combined arms training according to Army and joint doctrine. This training approximates actual combat. UH-60V units will develop and conduct tactically sound training scenario missions on approved doctrine for all individual and collective tasks. The UH-60V units will interface with CTCs to receive unit task training performance feedback that identifies the need or requirement to develop or revise training scenario missions. The proponent schools will review CALL trends (provided by the CTCs CONOP collection efforts) and apply, as appropriate, lessons learned to training and doctrinal products. These areas will include the Mission Command Training Center, Joint Readiness Training Center, National Training Center, and Joint Multinational Readiness Center.

#### **7.1.1.4.5 Logistics Support Areas**

Sufficient facilities are required for use by Contractor Logistics Support Personnel to provide technical support for the operation and maintenance of training systems.

#### **7.1.1.4.6 Mission Command Training Centers (MCTC)**

The objective of the Mission Command Training Program is to provide Commander and staff training, training support, and publications to Army National Guard Soldiers and units, at its facility or via mobile training teams, prior to mobilization to assist them prepare for full spectrum operations in a joint, interagency, intergovernmental, and multinational environment.

#### **7.1.1.5 Training Services**

The management, acquisition, and support devices that enable the preparation, replication, distribution, and sustainment training will be obtained when required. Some of the considerations that should be reviewed when contracting for training products and for training services include the scope of the training requirement, instructional materials, devices and equipment to support training, facilities and training environment, instructors and support personnel, and contract management.

#### **7.1.1.5.1 Management Support Services**

Not Applicable

#### **7.1.1.5.2 Acquisition Support Services**

Not Applicable

#### **7.1.1.5.3 General Support Services**

The MD is responsible for coordinating Army or contractor support and funding for the required general support services throughout the life cycle of the UH-60V.

### **7.1.2 Architectures and Standards Component**

Architectures are the structure of UH-60V training components, their relationship, and the principles and guidelines governing their design and evolution over time. They will be the framework that describes missions, organizations, and systems; specifies interfaces and interrelationships amongst its various parts; and facilitates coordination and synchronization with internal and external interfaces. The UH-60V training subsystem will be integrated into three types of architectures - organization, functional, and systems - each of which may have operational, technical, and systems views.



#### **7.1.2.1 Operational View (OV)**

See Paragraph 6.1.2.1

#### **7.1.2.2 Systems View (SV)**

See Paragraph 6.1.2.2

#### **7.1.2.3 Technical View (TV)**

See Paragraph 6.1.2.3

### **7.1.3 Management, Evaluation, and Resource (MER) Processes Component**

The TSS MER processes will monitor the health and relevance of the TSS in regards to the UH-60V training subsystem, establish priorities, and align resources against those priorities. They use UH-60V issues and feedback from the force to ensure decisions address real concerns from commanders and Soldiers. MER processes will employ best business practices to plan, implement, and sustain the TSS. The processes consider both internal and external drivers that impact TSS and guide the development, maintenance, and sustainment of the TSS.

#### **7.1.3.1 Management**

Where possible the UH-60V will use existing facilities and support infrastructure. Training development will focus on producing products that are capable of being used in the operational training domain and focused only on combat critical tasks. Training will incorporate the maximum use of simulators/simulation to mitigate cost and risk. Students and instructors will be routinely asked to evaluate training events and products to determine how best to improve the quality and efficiency of instruction and training events to provide the best quality training with the least expenditure of resources.

#### **7.1.3.1.1 Strategic Planning**

The development and fielding of the UH-60V will support Army Transformation and Training Transformation and will be consistent with the guidance found in:

National Defense strategies

Joint Vision 2020

The Army Plan and other Service plans

Future force documentation

TRADOC supporting plan to the Army Transformation Campaign Plan (ATCP)

TSS Strategic Plan (when published)

TSS Program Strategy Formulation

#### **7.1.3.1.2 Concept Development and Experimentation (CD&E)**

The ARCICs is responsible for chartering Integrated Capability Development Teams (ICDT) to lead joint and Army CD&E efforts throughout TRADOC and in cooperation with non-TRADOC proponents. The charter will synchronize and integrate Army CD&E with joint CD&E, and develop joint concepts and architectures, ICW HQDA, the Joint Staff Functional Capabilities Board (FCB) Working Groups, Joint Forces Command (JFCOM) J9, Northern Command (NORTHCOM), and Strategic Command (STRATCOM). Provide direction to TRADOC proponents and/or non-TRADOC proponents to establish an ICDT to develop concepts and execute the JCIDS/CIDS process. Ensure adequate representation from non-TRADOC organizations in these ICDTs. The following Futures Center chartered ICDT responsibilities include developing concepts, writing concepts and submitting the concepts to the ARCIC (Dir CD&E) for review and approval. Perform the capabilities based assessment of joint and Army concepts to include conducting Functional Area Analysis (FAA) and forwarding FAA results to the Dir CD&E for validation. Conduct Functional Needs Analysis (FNA), and forwarding the FNA prioritized list of capability gaps and redundancies to the Dir CD. Performing the DOTMLPF Analysis for the Functional Systems Analysis (FSA) and forwarding recommended non-material changes, product improvements to existing material of facilities, adoption of interagency, other service, or foreign material solutions, and new material starts to the Dir CD for validation. Developing ideas for material approaches in coordination with Research, Development, and Engineering Command (RDECOM), Research, Development and Engineering Center (RDEC). Conducting Analysis of Materials (AMA) and forwarding the AMA prioritized list of material approaches to the Dir CD. Developing Operational Architecture (OA) products as required by the concept, ICD, CDD, and CPD. Forwarding OA products to the Dir AIM for validation, integration, and approval and ensuring TRADOC DCSINT approves threats used in concept development and any modeling efforts supporting capabilities developments.

#### **7.1.3.1.3 Research and Studies**

Conduct research and studies that will explore science and technology initiatives for potential UH-60V training and training support capabilities that can result in high payoffs on the battlefield. The ultimate goal will be to identify opportunities that will improve the training and education process and result in efficiencies in force readiness. The TSS MER processes also ensure training support capabilities are focused and are not stove piped, redundant, or irrelevant.



#### **7.1.3.1.4 Policy and Guidance**

In addition to 7.1.1.2.3, the documents listed below apply to UH-60V Institutional Training and use:

TRADOC Regulations 350-70 Army Learning Policy and Systems, 6 December 2011.

TRADOC Regulation 71-20 Concept Development, Experimentation, and Requirements Determination, 28 June 2013.

AR 350-1 Army Training and Leader Development, 18 December 2009.

AR 350-38 Training Device Policies and Management, 28 March 2013.

Command Training Guidance

Doctrine (ADP 7-0, Army Training Network (ATN)).

AR 73-1 Test and Evaluation Policy, 1 August 2006.

USAACE 350-70

#### **7.1.3.1.5 Requirements Generation**

This STRAP supports the CDD it accompanies.

#### **7.1.3.1.6 Synchronization**

The fielding of the UH-60V will be synchronized with the following as applicable:

- Material Fielding Plan
- Material Transfer Plan
- Army Transformation Campaign Plan (ATCP)
- Implementation Plan for Transforming DoD Training
- TADSS distribution plans
- Unit Set Fielding

#### **7.1.3.1.7 Joint Training Support**

The fielding of the UH-60V Training Support System (TSS) will be synchronized with the following as applicable:

- Joint Knowledge Development and Distribution Capability (JKDDC)
- Joint Assessment and Enabling Capability (JAEC)
- Joint National Training Capability (JNTC)
- Joint Advanced Distributed Learning Co-Labs

#### **7.1.3.2 Evaluation**

The same processes will be used as for the institutional domain as they apply to unit training events and with a heavier emphasis on AARs to include capturing training events

#### **7.1.3.2.1 Quality Assurance (QA)**

An Army training/education evaluation and quality-assurance program for the UH-60V, which apply to the training courses and products, will be accomplished through a systematic collection and analysis of user feedback concerning the effectiveness of training in which these programs will provide a foundation for assessing performance deficiencies and identifying successful initiatives. The UH-60V training and training proponents will conduct evaluations to verify that the training development process results in training materials that reflect current doctrine, organizational structures, and material systems. Other QA programs provided by TRADOC, ATSC, Center and proponent schools can be incorporated to evaluate the effectiveness of their training products.

#### **7.1.3.2.2 Assessments**

Assessments will be those actions that make a valuation of the UH-60V Training Subsystem and its relevance to the training process. Examples of assessment tools include:

Training evaluations and analysis

Monthly status reports

Risk Assessment

Strategic Readiness System

#### **7.1.3.2.3 Customer Feedback**

The following tools will be used to obtain customer feedback which includes those actions that allow for the evaluative and corrective information about the UH-60V training subsystem and its relevance to the training process:

Electronic media for surveys, help desks, collaboration

Interviews

Questionnaires

Critiques



#### **7.1.3.2.4 Lessons Learned/After-Action Reviews (AARs)**

Lessons learned/AARs will be those actions that allow for the collection, analysis, and dissemination of data from a variety of current and historical sources to support efficient and effective UH-60V TSS operations. Examples of sources of lessons learned include CALL documentation (repositories, newsletters, etc.), AAR take home packages, critiques, etc.

### 7.1.3.3 Resource Processes

Item Resourced	FY14	FY15	FY16	FY17	FY18	FY19	FY20
Total NET Cost	\$	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000
NET Team (NETT) Instructors	\$	\$600,000	\$600,000	\$600,000	\$600,000	\$600,000	\$600,000
Travel	\$	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000
Service/Supplies	\$	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
Training Equipment	\$	NA	NA	NA	NA	NA	NA
Courseware Development	\$	\$800,000	\$800,000	\$800,000	\$800,000	\$800,000	\$800,000
Training							

Development	\$	\$700,000	\$700,000	\$700,000	\$700,000	\$700,000	\$700,000
Training & Education Developers	\$	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000
Travel	\$	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000
TADSS Software Developemnt and Upgrades	\$	\$800,000	\$800,000	\$800,000	\$800,000	\$800,000	\$800,000
Edit as needed or delete this text							
Edit as needed or delete this text							
Edit as needed or delete this text							

Edit as needed or delete this text							
Edit as needed or delete this text							
GRAND TOTAL	\$	\$11,105,000	\$11,105,000	\$11,105,000	\$11,105,000	\$11,105,000	\$11,105,000

Rationale:

## **8.0 Self-Development Training Domain**

Self-development products will be prepared for common databases, will support reuse with other systems, and will be accessible on U.S. Military network systems worldwide. Training repositories will be reachable from the classrooms, remote locations, hardware platforms, barracks, homes, and business environments. Capabilities will exist to support operator, maintainer, commander, leader, and staff development by providing access and connectivity to all levels of Army and joint knowledge systems. Learning management systems will be available that provide the capability to manage career-paths, determine and plan future training requirements, and track training. The ability to access, retrieve, complete secure, networked testing materials, and receive results will allow students to monitor their progress and access areas of strengths and weaknesses.

## **8.1 Self-Development Training Concept and Strategy**

Training of unit leaders will be accomplished by teaching and sustaining proficiency in individual and collective leader tasks. Live exercises at home station, local training areas, maneuver CTCs, and deployed training sites, will be required to validate proficiency. Training is conducted primarily at platoon through company level, depending on the training objectives of the commander. The commander selects tasks and missions to be trained based on his Mission Essential Task List (METL). Training conditions and standards are based on the appropriate Digital Management Training System (DTMS) and Combined Arms Training Strategy (CATS). The DTMS and CATS will include short and long-range strategies for individual, collective, battle staff, self development, and institutional training.

Recognizing that numerous training options are available within the synthetic training environment, an integrated training strategy describing the use of available Live, Virtual, Constructive (LVC) gaming resources is required. The LVC gaming environment facilitates the use of a "gated" approach to training.

#### **8.1.1 Product Lines**

The product lines will provide the capabilities that trainers and Soldiers need to conduct training in the self-development domain. The UH-60V product line will require upgrades to training aids, devices, simulators, simulation, software, hardware, and databases at AMCOM sites as needed.

#### **8.1.1.1 Training Information Infrastructure**

Integrated Training Environment (ITE): The UH-60V helicopter will interface with the Live, Virtual, Constructive (LVC) gaming environments through the Integrated Training Environment. Integrated Training Environment (ITE) is the Army's virtual component of the LVC Integrated Architecture. Integrated Training Environment (ITE) will develop new hardware and integrate existing hardware and software products to create the Army's common virtual environment (CVE). The objective will be to link system and non-system virtual simulations into a fully integrated training capability. Once developed, the Integrated Training Environment (ITE) standard components will reduce redundancy and increase realism.



#### **8.1.1.1.1 Hardware, Software, and Communications Systems**

The interconnected local and global network infrastructure will be used for dissemination and delivery of the UH-60V training support information including: distributed Learning (DL) repositories such as the Army Learning Management System (ALMS), or the Digital Training Management System (DTMS); Video Tele-training (VTT) delivered to the Army through Army Training Network (ATN).

#### **8.1.1.1.2 Storage, Retrieval, and Delivery**

The interconnected local and global network infrastructure to facilitate the dissemination and delivery of UH-60V training support information include Reimer Digital Library (RDL), Distributed Learning (DL) repositories, Center for Army Lessons Learned (CALL) repository, and Video Teletraining (VTT).

#### **8.1.1.1.3 Management Capabilities**

Information and training management capabilities will mirror those of the current Army Aviation Systems.

#### **8.1.1.1.4 Other Enabling Capabilities**

Interoperability and data exchange as required by the Training Support System (TSS) will exist with the Army Training Integrated Architecture (ATIA), the Common Training Instrumentation Architecture (CTIA), and the Live-Virtual-Constructive Integrated Architecture (LVC-IA) to support the primary components of the TSS Training Information Infrastructure (TII). Additionally, the capability for common communications and data exchange operating environment integral to the Future Combat System (FCS) would be incorporated into the system.

#### **8.1.1.2 Training Products**

The UH-60V training subsystem will require upgrades to software, hardware, databases, and TSPs will be delivered by the MD to UH-60V sites as needed for the life cycle of the system.

#### **8.1.1.2.1 Courseware**

The MD will provide a UH-60V multi-media TSP (ICW, IMI, or web-based instruction) that can be used to support self development training and (DL) training. The MD will also be responsible for upgrading the TSP as newer versions of software become available and modifications are made to the UH-60V Blackhawk.

#### **8.1.1.2.2 Courses**

Not Applicable.

#### **8.1.1.2.3 Training Publications**

The following are examples of Field Manuals, Training Circulars, Technical Manuals, and Soldier Training Publications that are required to support UH-60V training programs and should be included (If appropriate) in the Multimedia TSP:

Field Manuals/Joint Publications:

FM 1 The Army; 14 June 01

FM 2.0 Intelligence and Electronic Warfare Operations; Date TBD

FM 3-XX.XX Security and Support/Generating Force MEDEVAC Mission; Date TBD

FM 3-04.100 Army Aviation Operations; Date TBD

FM 3-04.111 Aviation Brigades; 21 August 03

FM 3-04.113 Utility and Cargo Battalion; Date TBD

FM 3-04.115 Aviation Battalion Task Force; Date TBD

FM 3-04.118 General Support Battalion Operations; Date TBD

FM 3-04.119 Service and Support Helicopter Battalion Operations; Dated TBD

FM 3-04.131 Aviation Headquarters and Headquarters Company; Date TBD

FM 3-04.132 Attack/Reconnaissance Company; Date TBD

FM 3-04.134 Command Aviation Company; Date TBD

FM 3-04.140 Helicopter Gunnery

FM 3-04.155 Unmanned Aerial Systems (UASs) Operations; Date TBD

FM 3-04.201 Fundamentals of Flight; Date TBD

FM 3-04.202 Environmental Flight; Date TBD

FM 3-04.203 Fundamentals of Flight; Date TBD

FM 3-04.230 Meteorology for Army Aviators; Date TBD

FM 3-04.240 Instrument Flying and Navigation for Army Aviators; Date TBD

FM 3-04.300 Flight Operations and Airfield Management; Date TBD



FM 3-04.301 Aeromedical Training for Flight Personnel; 29 August 00

FM 3-04.400 Aviator's handbook; Date TBD

FM 3-04.402 Aviator's Recognition Manual; Date TBD

FM 3-04.501 Aviation Unit Maintenance Company; Date TBD

FM 3-04.513 Battlefield Recovery and Evacuation of Aircraft; 27 September 00

FM 3-04.514 Fundamentals of Rotor and Powertrain Maintenance Techniques and Procedures; Date TBD

FM 3-04.563 Fundamentals and Procedures of Airframe Maintenance; Date TBD

FM 3-04.564 Shipboard Operations; 29 June 97

FM 3-06.1 Aviation Urban Operations - Multiservice Procedures for Aviation Urban Operations; 15 April 01

FM 3-09.3 Tactics, Techniques, and Procedures for Observed Fire; Date TBD

FM 3-11.3 NBC Contamination Avoidance; Date TBD

FM 3-20.95 Cavalry Operations; Date TBD

FM 3-21.60 Visual Signals; Date TBD

FM 3-97.6 Mountain Operations; 28 November 00

FM 7-0 Training for Full Spectrum Operations; 12 December 08

FM 8-10-26 Employment of the Medical Company (Air Ambulance); 16 February 99

JP 3-26 Joint Doctrine for Homeland Security, Second Draft, dated 11 Sep 03

Technical Manuals:

TM 1-1500-328-23 Aeronautical Equipment Maintenance Management Policies and Procedures; 28 February 91

TM 55-1500-342-23 Army Aviation Maintenance Engineering Manual for Weight and Balance; 29 August 86

OEM MANUAL Series Manuals UH-60V Specific Designation TBD, Dated TBD

OEM MANUAL UH-60V Specific Designations are TBD; Dated TBD

OEM/FLIGHT MANUAL OEM Operator's Rotorcraft Flight Manual for UH-60V

OEM / CHECK-LIST OEM Operator's Checklist for UH-60V

OEM / MTF MANUAL OEM Maintenance Test Flight Manual for UH-60V

UH-60V Aircrew Training Manual;

TC 1-201 Tactical Flight Procedures; 20 January 84

TC 1-204 Night Flight Techniques and Procedures; 27 December 88

TC 1-210 Aircrew Training Program; Commander's Guide to Individual and Crew Standardization; Dated 8 January 96

TC 1-400 Brigade Aviation Element Handbook; Dated TBD

TC 1-500 Service and Support Battalion Operations; Dated TBD

Soldiers Manuals:

STP 1-15B13-SM-TG SOLDIER Manual, Skill Levels 1/2/3 and Trainer's Guide MOS 15B; Date TBD

STP 1-15C13-SM-TG SOLDIER Manual, Skill Levels 1/2/3 and Trainer's Guide MOS 15C; Date TBD

STP 1-15D13-SM-TG SOLDIER Manual, Skill Levels 1/2/3 and Trainer's Guide MOS 15D; Date TBD

STP 1-15F13-SM-TG SOLDIER Manual, Skill Levels 1/2/3 and Trainer's Guide MOS 15F; Date TBD

STP 1-15G13-SM-TG SOLDIER Manual, Skill Levels 1/2/3 and Trainer's Guide MOS 15G; Date TBD

STP 1-15K13-SM-TG SOLDIER Manual, Skill Levels 3 and Trainer's Guide MOS 15K; Date TBD

STP 1-15M13-SM-TG SOLDIER Manual, Skill Levels 1/2/3 and Trainer's Guide MOS 15N; Date TBD

STP 1-15N13-SM-TG SOLDIER Manual, Skill Levels 1/2/3 and Trainer's Guide MOS 15(?); Date TBD

3-04.119 Security and Support Helicopter Battalion Field Manual

#### **8.1.1.2.4 Training Support Package (TSP)**

A complete exportable package will be provided with the training products, materials, and information necessary to train the critical tasks to operate, maintain, and support the UH-60V Blackhawk.

#### **8.1.1.3 Training Aids, Devices, Simulators and Simulations (TADSS)**

Aviators require aviation TADSS that allow them to train as they will operate within a modular force construct, maintain proficiencies, and execute high fidelity aviation mission rehearsals. The flight simulators must replicate the physical and functional fidelity of the actual aircraft to be able to perform before starting engine checks, startup, run-up, hover, flight, mission modes, mission equipment, maintenance tasks, landing and shutdown while avoiding negative habit transfers. The aviation simulators (including unmanned aerial system simulators) must meet High Level Architecture (HLA) network capabilities with other Army simulators and be distributed interactive simulation (DIS) compliant. The Material Developer should consider the integration of Synthetic Environment (SE) Core common virtual components, terrain databases, and one Semi-Automated Forces (OneSAF) for use as the computer generated force to reduce future development and life-cycle costs and to enhance the training and mission rehearsal capabilities for our Warfighters. Individual Training Requirements for the aircraft simulators include Aircrew Training Manual (ATM) tasks, emergency procedures, and start-up/run-up/shutdown procedures. Collective training requirements for the aircraft simulators include ATM tasks and unit specific METL tasks. The critical tasks include radio operations/communications procedures which require appropriate representation of the radios to include JTRS.

**Rationale:** Provides description that is applicable to all TADSS.

#### **8.1.1.3.1 Training Aids**

See Para 8.1.1.3

#### **8.1.1.3.2 Training Devices**

See Para 8.1.1.3

#### **8.1.1.3.3 Simulators**

See Para 8.1.1.3

#### **8.1.1.3.4 Simulations**

See Para 8.1.1.3



#### **8.1.1.3.5 Instrumentation**

See Para 8.1.1.3

#### **8.1.1.4 Training Facilities and Land**

Not Applicable.

#### 8.1.1.4.1 Ranges

#### 8.1.1.4.2 Maneuver Training Areas (MTA)

#### 8.1.1.4.3 Classrooms

#### 8.1.1.4.4 CTCs

#### 8.1.1.4.5 Logistics Support Areas

#### 8.1.1.4.6 Mission Command Training Centers (MCTC)



#### **8.1.1.5 Training Services**

The management, acquisition, and support devices that enable the preparation, replication, distribution, and sustainment training will be obtained when required. Some of the considerations that should be reviewed when contracting for training products and for training services include the scope of the training requirement, course control data, instructional materials, devices and equipment to support training, facilities and training environment, instructors and support personnel, and contract management.

#### **8.1.1.5.1 Management Support Services**

TBD

#### **8.1.1.5.2 Acquisition Support Services**

PM office will provide acquisition support service throughout the life cycle of the UH-60V.

#### **8.1.1.5.3 General Support Services**

The PM office will continue to provide general support services throughout the life cycle of the UH-60V.

### **8.1.2 Architectures and Standards Component**

Architectures and standards will provide the means to ensure integration and interoperability across product lines to support the UH-60V Blackhawk.

Architectures are the structure of UH-60V Blackhawk training components, their relationship, and the principles and guidelines governing their design and evolution over time. They will be the framework that describes missions, organizations, and systems; specifies interfaces and interrelationships amongst its various parts; and facilitates coordination and synchronization with internal and external interfaces. The UH-60V Blackhawk training subsystem will be integrated in to three types of architectures - organization, functional, and systems - each of which may have operational, technical, and systems views.

#### 8.1.2.1 Operational View (OV)

#### **8.1.2.2 Systems View (SV)**

The UH-60V Blackhawk will interact with and support AVCATT and will be compatible with Army Battle Command Systems (ABCS) components as well as selected other TADSS and communications systems.

#### **8.1.2.3 Technical View (TV)**

The UH-60V Blackhawk will support system-to-system compatibility with:

Joint Technical Architecture - Army (JTA-A)

Common Operating Environment (COE)

Installation Information Infrastructure Architecture (I3A)

High Level Architecture (HLA)

Army Training Information Architecture (ATIA)

Common Training Instrumentation Architecture (CTIA)

Live, virtual, constructive - intergraded training environment (LVC-ITE)

Digital Range Training System (DRTS)

Standards and specifications for TSS components and subcomponents (e.g., standards and specs for ranges, targetry, classrooms, etc.)

Sharable Content Object Reference Model (SCORM)

Homestation Instrumentation System (HITS)

Future Army TESS (ATESS).



### **8.1.3 Management, Evaluation, and Resource (MER) Processes Component**

The self development training domain MER process will monitor the health and relevance of the self development training in regards to the UH-60V training subsystem, establish priorities, and align resources against those priorities. They use UH-60V issues and feedback from the force to ensure decisions address real concerns from commanders and Soldiers. MER processes will employ best business practices to plan, implement, and sustain the self development training domain. The processes consider both internal and external drivers that impact self development training domain and guide the development, maintenance, and sustainment of the self development training domain.

#### **8.1.3.1 Management**

Where possible the UH-60V will use existing facilities and support infrastructure. Training development will focus on producing products that are capable of being used in the operational training domain and focused only on combat critical tasks. Training will incorporate the maximum use of simulators/simulation to mitigate cost and risk. Students and instructors will be routinely asked to evaluate training events and products to determine how best to improve the quality and efficiency of instruction and training events to provide the best quality training with the least expenditure of resources.

#### **8.1.3.1.1 Strategic Planning**

The development and fielding of the UH-60V supports Army Transformation and Training Transformation and is consistent with the guidance found in:

- National Defense strategies
- Joint Vision 2020
- The Army Plan and other Service plans
- Future force documentation
- TRADOC supporting plan to the Army Transformation Campaign Plan (ATCP)
- TSS Strategic Plan (when published)
- USAACE Aviation TADSS Strategy

TSS Program Strategy Formulation (guidance to be published)

#### **8.1.3.1.2 Concept Development and Experimentation (CD&E)**

See paragraph 7.1.3.1.2

#### **8.1.3.1.3 Research and Studies**

See paragraph 7.1.3.1.3

#### **8.1.3.1.4 Policy and Guidance**

In addition to 8.1.1.2.3, the documents listed below apply to the design, procurement, and use of the UH-60V:

- TRADOC Regulations 350-70 Systems Approach to Training Management, Processes, and Products, 9 March 1999.
- TRADOC Regulation 71-20 Concept Development, Experimentation, and Requirements Determination, 6 Oct 2009.
- AR 350-1 Army Training and Leader Development, 18 December 2009.
- AR 350-38 Training Device Policies and Management, 15 Oct 1993.
- Command Training Guidance
- Doctrine (FMs 7-0, Army Training Network (ATN)).
- AR 73-1 Test and Evaluation Policy, 1 August 2006 .

#### **8.1.3.1.5 Requirements Generation**

This STRAP establishes the proponent's armywide training plan and training requirements for UH-60V CDD it accompanies.

#### **8.1.3.1.6 Synchronization**

The fielding of the UH-60V will be synchronized with the following as applicable:

- Material Fielding Plan
- Material Transfer Plan
- Army Transformation Campaign Plan (ATCP)
- Implementation Plan for Transforming DoD Training
- TADSS distribution plans
- Unit Set Fielding



#### **8.1.3.1.7 Joint Training Support**

The fielding of the UH-60V Training Support System (TSS) will be synchronized with the following as applicable:

- Joint Knowledge Development and Distribution Capability (JKDDC)
- Joint Assessment and Enabling Capability (JAEC)
- Joint National Training Capability (JNTC)
- Joint Advanced Distributed Learning Co-Labs
- Joint Professional Military Education

#### **8.1.3.2 Evaluation**

A formal evaluation will be conducted after the training system has been in the field for a sufficient time for the sustainment training program to stabilize. Typically, this would be within 12 to 24 months after the initial fielded unit is operationally capable, or when problems are reported (eg. high attrition course rates or ACOM complaints). This evaluation will determine the training program (ie. courses, literature, TADSS) costs and effectiveness for the fielded system. Specific areas in the evaluation process include positive and negative aspects of operator and maintainer training, comparison of actual costs to projected costs for all training systems, relationships between sustainment training and Soldiers proficiency, needed improvements to training in terms of cost, time, and effectiveness, Soldiers perceptions of training at the service school and at the units, TADSS utilization, effectiveness, cost, and TADSS resource trade-offs (eg. equipment and OPTEMPO).

#### **8.1.3.2.1 Quality Assurance (QA)**

An Army training/education evaluation and quality-assurance program for the UH-60V, which apply to the training courses, products, and supporting institutions will be accomplished through a systematic collection and analysis of user feedback concerning the effectiveness of training in which these programs will provide a foundation for assessing performance deficiencies and identifying successful initiatives. The UH-60V training and training proponents will conduct evaluations to verify that the training development process results in training materials that reflect current doctrine, organizational structures, and material systems. Other QA programs provided by TRADOC, ATSC, Center and proponent schools can be incorporated to evaluate the effectiveness of their training products.

#### **8.1.3.2.2 Assessments**

Assessments will be those actions that make a valuation of the UH-60V Training Subsystem and its relevance to the training process. Examples of assessment tools include:

- Training evaluations and analysis
- Monthly status reports
- Risk Assessment
- Strategic Readiness System

#### **8.1.3.2.3 Customer Feedback**

The following tools will be used to obtain customer feedback which include those actions that allow for the evaluative and corrective information about the UH-60V training subsystem and its relevance to the training process:

- Electronic media for surveys, help desks, collaboration
- Interviews
- Questionnaires
- Critiques

#### **8.1.3.2.4 Lessons Learned/After-Action Reviews (AARs)**

Lessons learned/AARs will be those actions that allow for the collection, analysis, and dissemination of data from a variety of current and historical sources to support efficient and effective UH-60V Institutional Training operations. Examples of sources of lessons learned include CALL documentation (repositories, newsletters, etc.), AAR take home packages, critiques, etc.

### 8.1.3.3 Resource Processes

Item Resourced	FY14	FY15	FY16	FY17	FY18	FY19	FY20
Total NET Cost	\$	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000
NET Team (NETT) Instructors	\$	\$600,000	\$600,000	\$600,000	\$600,000	\$600,000	\$600,000
Travel	\$	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000
Service/Supplies	\$	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
Training Equipment	\$	NA	NA	NA	NA	NA	NA
Courseware Development	\$	\$800,000	\$800,000	\$800,000	\$800,000	\$800,000	\$800,000
Training							

Development	\$	\$700,000	\$700,000	\$700,000	\$700,000	\$700,000	\$700,000
Training & Education Developers	\$	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000
Travel	\$	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000
TADSS Software Developemnt and Upgrades	\$	\$800,000	\$800,000	\$800,000	\$800,000	\$800,000	\$800,000
Edit as needed or delete this text							
Edit as needed or delete this text							
Edit as needed or delete this text							



Edit as needed or delete this text							
Edit as needed or delete this text							
GRAND TOTAL	\$	\$11,105,000	\$11,105,000	\$11,105,000	\$11,105,000	\$11,105,000	\$11,105,000

Rationale:

**A Milestone Annex**

<b>TRAINING DEVELOPMENT MILESTONE SCHEDULE - SHEET A</b>		PAGE OF PAGES	REQUIREMENTS CONTROL SYMBOL	
SYSTEM	ACAT	OFFICE SYMBOL	AS OF DATE	
POINTS OF CONTACT		NAME	OFFICE SYMBOL	TELEPHONE
MATERIEL COMMAND				
TRADOC PROPONENT				
TCM				
CD:				
TD:				
ATSC:				
SUPPORTING PROPONENTS:		128th Aviation Brigade		
		Steve Tisdale	ATZQ-ALO-S	757-878-4932 (DSN 826)
		Guy Randall	ATZQ-ALO-S	757-878-6964 x2233 (DSN 826)
ITEM	DATE	RESPONSIBLE AGENCY/POC		TELEPHONE

MNS :				
SMMP :				
MRD :				
ILSMP :				
TTSP :				
QQPRI :				
BOIP :				
NETP :				
COMMENTS :				

[illegible]


NOTE: Identify **TRAINING DEVELOPMENT MILESTONES** . TRADOC FORM 569-1-R-E provides a detailed list of typical training development products required to support system training integration.

COMMENTS:

NOTE: The following table is optional; however, it is useful for populating SHEET B above and provides greater detail for each milestone. If not used, delete from this section before submitting for staffing.

	Individual Training Plan (Per each ITP)	

	Milestone:	Date
	1. Initial Individual Training Plan (ITP) submitted.	
	2. Annotated task list submitted.	
	3. Course Administrative Data (CAD) submitted.	
	4. Training Program Worksheet (TPW) submitted.	
	5. ITP submitted.	
	6. POI submitted.	
	7. Digitized copy archived.	

	8. Resident course start date (NLT 12 months after FUE).	
	Army Correspondence Course Program	
	(Only as a DL portion of a TATS course)	
	Milestone:	Date
	1. Requirement identified and submitted for approval.	
	2. Requirement approved by HQ TRADOC.	
	3. Development initiated.	
	4. Advance breakdown sheet submitted.	

	5. Digitized camera-ready copy (CRC) submitted.	
	6. Subcourse material ready for replication/distribution.	
	Field Manuals (FMs)	
	Milestone:	Date
	1. Requirements identified.	
	2. Draft FM changes validated.	
	3. FM outlines approved.	
	4. FM coordinating draft	



	completed.	
	5. Print/digitization request initiated.	
	6. Approved digitized CRC submitted.	
	7. Replication/distribution completed.	
	Army Training Literature  Note: Includes the Soldiers' Manual (SM), Trainers' Guide (TG), and Army Training and Evaluation Program (ARTEP) products.	
	Milestone:	Date
	1. Analysis completed.	

	2. Draft SM, ARTEP MTP, and TG.	
	3. ATSC staffing.	
	4. Digitized/CRC submitted.	
	5. Replication/distribution completed.	
	Interactive Multimedia Instruction (IMI)/Distance Learning	
	Milestone:	Date
	1. Requirements identified and submitted for approval.	
	2. Requirements approved by ATSC and	

	TRADOC.	
	3. Resources identified.	
	4. Courseware developed and validated.	
	5. Master materials to ATSC for replication and distribution.	
	6. Replication/distribution completed.	
	Training Effectiveness Analysis (TEA)	
	(Conducted in-house, by contract, Training Development and Analysis Activity [TDAA], TRADOC Analysis Center [TRAC], or Program Manager [PM])	

	Milestone:	Date
	1. TEA during capabilities development.	
	2. TEA updated for Milestone Decision Review A.	
	3. TEA updated for Milestone Decision Review B.	
	4. TEA updated for Milestone Decision Review C.	
	5. Post-Fielding TEA (PFTEA) planned.	
	Army Visual Information Production and Distribution Program (DAVIPDP)	

	Milestone:	Date
	1. High risk tasks and jobs identified.	
	2. Storyboards validated.	
	3. DAVIPDP requirements submitted to ATSC.	
	4. Requirements approved by DA.	
	5. Production initiated.	
	6. Replication/distribution completed.	
	Training Aids, Devices,	

	Simulators, and Simulations	
	(TADSS)	
	Milestone:	Date
	1. High risk, hard-to-train tasks identified.	
	2. Need for TADSS identified.	
	3. TADSS concept validated.	
	4. TADSS incorporated into the STRAP (part of the CATS).	
	5. Analytical justification using the TEA provided.	

	6. TSS CDD/ CPD developed, if required.	
	7. TADSS effectiveness validated.	
	8. TADSS incorporated into the ICD, CDD, CPD, STRAP	
	9. MOS-specific milestones/requirements for TADSS developed and incorporated in the integrated training strategy (ITS).	
	Training Facilities and Land	
	Milestone:	Date
	1. Range and facility requirements identified.	

	2. Identification of construction requirements completed.	
	3. Construction requirements submitted to MACOM.	
	4. Requirements validated and updated.	
	5. Supporting requirements identified and availability coordinated.	
	6. Installation and other construction requirements submitted to  MACOM.	
	7. Refined construction requirements and range criteria forwarded to MACOM, IMA, Chief of Engineers	



	8. Construction initiated.	
	Training Ammunition	
	Milestone:	
	1. Ammunition identified.	
	2. Initial ammunition requirements validated.	
	3. Requirements included in the ORD.	
	4. Ammunition item developed.	
	5. Validation	

	and test completed.	
	6. Ammunition requirements identified in the ITP.	
	7. Requirements provided to installation/MACOM manager.	
	8. Requirements included in DA Pam 350-38.	
	9. Production entered.	
	Training Equipment	
	Milestone	
	1.	

	2.	
	Training Services	
	Milestone	
	1. Contractor Logistic Support	
	2. Contractor NET Support	
	3. Contractor DET Support	

## **B References**

This STRAP has been prepared in accordance with training management policies and requirements prescribed in TRADOC Reg 350-70, Army Learning Policy and Systems, Appendix J, along with the following references:

1. AR 350-1, Army Training and Leader Development; 19 August 2014
2. AR 611-1, Military Occupational Classification Structure Development and Implementation ; 30 September 97
3. AR 71-2, Basis Of Issue Plans (BOIP), Qualitative and Quantitative Personnel Requirements Information (QQPRI); 16 July 1990
4. AR 71-9, Warfighting Capabilities Determination; 28 December 2009
5. AR 350-38, Policies and Management for Training Aids, Devices, Simulators, and Simulations; 28 March 2013
6. AR 602-2, Manpower and Personnel Integration (MANPRINT) in the System Acquisition Process; 31 January 2014
7. AR 700-127, Integrated Logistic Support (RAR001, 2012/03/26); 17 July 2008
8. TRADOC Reg 350-70, Army Learning Policy And Systems; 6 December 2011
9. AR 70-1, Army Acquisition Policy; 22 July 2011

10. TRADOC Reg 350-32, The TRADOC Training Effectiveness Analysis (TEA) System; 30 Sep 1994

C Coordination Annex

Organization/POC (Date)	Summary of Comments Submitted (A/S/C)			Comments Accepted/ Rejected						Rationale for Non-Acceptance - S, C
				Accepted			Rejected			
	A	S	C	A	S	C	A	S	C	
v2.2.2 James E Baker  2015/04/06 - 2015/04/16	Document Accepted As Written			0	0	0	0	0	0	-
v2.2.1 Approvals - Michael P Donohue 2015/04/06 - 2015/04/16	Document Accepted As Written			0	0	0	0	0	0	-
v2.2.1 Approvals - Robert A Story 2015/04/02 - 2015/04/12	Document Accepted As Written			0	0	0	0	0	0	-
v2.2 Army - USAACE - Aviation School 2015/03/26 - 2015/04/01	No Comments Submitted			0	0	0	0	0	0	-
v2.2 Army - PEO Aviation 2015/03/26 - 2015/04/01	0	1	0	0	1	0	0	0	0	
v2.1 Peer - USAACE - Aviation School 2015/03/04 - 2015/03/10	No Comments Submitted			0	0	0	0	0	0	-
v2.1 Peer - PEO-STRI Customer Support Group	0	1	2	0	0	0	0	1	2	

2015/03/04 - 2015/03/10										
----------------------------	--	--	--	--	--	--	--	--	--	--

Key
Completed Review with Comments
Completed Review, No Comments
Active Review Occurring

ATZQ-TD

APR 8 2015

MEMORANDUM FOR RECORD

SUBJECT: Approval of the System Training Plan (STRAP) for the H-60 Fleet

1. Reference: System Training Plan, H-60 Fleet.
2. The STRAP for the H-60 Fleet is approved. Approved STRAP will be posted to the Central Army Registry (CAR) website:  
<https://atiam.train.army.mil/catalog/catalog/search.htm>
3. The USAACE DOTD POC for this action is Mr. Andrew Lecuyer, 334-255-2584, DSN: (558), email [andrew.b.lecuyer.clv@mail.mil](mailto:andrew.b.lecuyer.clv@mail.mil), U.S. Army Aviation Center of Excellence, ATTN: ATZQ-TDT-N, Fort Rucker, AL 36362-5202.

  
JAMES E. BAKER, JR.  
Colonel, Aviation  
Director of Training and Doctrine

Memorandum of Approval H60 Fleet STRAP